FMFM 6-5

MARINE RIFLE SQUAD

U. S. MARINE CORPS

PCN 139 000500 0

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

16 December 1974

FOREWORD

1. PURPOSE

This publication, FMFM 6-5, Marine Rifle Squad, provides guidance to assist the squad leader and his subordinates in training and combat operations at the squad level.

2. SCOPE

This manual includes the organization, characteristics, and armament of the Marine rifle squad. Emphasis is directed toward squad training in the tactics and techniques employed in amphibious and helicopterborne operations. Also discussed are the tactics and techniques peculiar to special types of combat.

3. SUPERSESSION

FMFM 6-5, Marine Rifle Squad, dated 10 February 1971.

4. CHANGES

Recommendations for improving this manual are invited from commands as well as directly from individuals. The attached User Suggestion Form should be utilized by individuals and forwarded to the Commanding General, Marine Corps Development and Education Command (Director, Development Center), Quantico, Virginia 22134.

5. CERTIFICATION

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

E. S. FRIS
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Development and Education Command
Quantico, Virginia

DISTRIBUTION: TFF

Reviewed and approved for reprinting 28 April 1977.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

Stock No. 008-055-00082-3

USER SUGGESTION FORM

From:
To: Commanding General, MCDEC
(Director, Development Center)
Quantico, Virginia 22134

Subj: FMFM 6-5; recommendation(s) concerning

1. In accordance with the Foreword to FMFM 6-5, which invites individuals to submit suggestions concerning this FMFM directly to the above addressee, the following recommendation(s) is/are forwarded:

a. ITEM #1 (May be handwritten; if more space is required, use additional sheets and envelope.)

(1) Portion of Manual: (Cite by paragraph and/or page number.)

(2) Comment: (Explain in sufficient detail to identify the points of the suggestion.)

(3) Recommendation: (State the exact wording desired to be inserted into the manual.)

b. ITEM #2

(1)

(2)

(3)

MARINE RIFLE SQUAD

TABLE OF CONTENTS

CHAPTER 1. GENERAL

Section I. MISSION

Paragraph		Page
1101	Mission	1

Section II. ORGANIZATION AND ARMAMENT

1201	Organization of the Rifle Squad	2
1202	Composition of the Rifle Squad	2
1203	Weapons	2
1204	Duties of Individuals	4

Section III. LEADERSHIP AND COMMAND

1301	General	7
1302	Leadership Principles	7
1303	Troop Leading Procedure	8
1304	Estimate of the Situation	10
1305	Operation Orders	13

Section IV. COMBAT INTELLIGENCE AND COUNTERINTELLIGENCE

1401	General	16
1402	Sources of Information and Methods of Collection	17
1403	Reporting Information	18

1404 Handling Prisoners of War 19

Section V. FIRE SUPPORT FOR THE SQUAD

1501 General 22

CHAPTER 2. TECHNIQUE OF FIRE

Section I. INTRODUCTION

2101 General 25
2102 Training 25

Section II. RANGE DETERMINATION

2201 Importance and Methods 27
2202 Estimation by Eye 27
2203 Observation of Fire 29

Section III. RIFLE AND AUTOMATIC RIFLE FIRE AND ITS EFFECT

2301 General 31
2302 Trajectory 31
2303 Cone of Fire 33
2304 Beaten Zone 33
2305 Classes of Fire 34
2306 Effect of Rifle Fire 37

Section IV. M203 GRENADE LAUNCHER

2401 General 38
2402 Employment 38
2403 Trajectory 39
2404 Firing Positions 39
2405 Methods of Firing 40
2406 Effect of Grenade Launcher Fire 42

Section V. FIRING OF THE M79 GRENADE LAUNCHER

2501 Aimed Fire 43
2502 Pointing Technique 43
2503 Indirect Fire 43

Section VI. FIRE COMMANDS

2601 Importance and Purpose 45
2602 Elements 45
2603 Alert 47
2604 Direction 47
2605 Target Description 50
2606 Range 50
2607 Target Assignment 51
2608 Fire Control 51
2609 Signals 51
2610 Delivery of Commands 52

Section VII. APPLICATION OF FIRE

2701 General 53
2702 Types of Unit Fire 53
2703 Fire Delivery 55
2704 Reduced Visibility Firing 58
2705 Rate of Fire 60
2706 Fire Discipline 60
2707 Fire Control 60

CHAPTER 3. COMBAT FORMATIONS AND SIGNALS

Section I. COMBAT FORMATIONS

3101 General 63
3102 Basic Combat Formations 63
3103 Characteristics 65

Section II. SIGNALS

3201 General 70
3202 Whistle 70
3203 Special 70
3204 Arm-and-Hand 71

CHAPTER 4. AMPHIBIOUS OPERATIONS

Section I. PREPARATION AND MOVEMENT TO OPERATION

4101 Introduction 85
4102 Preembarkation 85
4103 Duties Aboard Ship 86
4104 Debarkation 87
4105 Movement from Ship-to-Shore 93
4106 Amphibious Assault 95

CHAPTER 5. HELICOPTERBORNE OPERATIONS

Section I. GENERAL

5101 Introduction 97
5102 Concept of Employment 97
5103 Basic Definitions 97

Section II. HELICOPTERBORNE TRAINING

5201 General 100

Section III. SIGNALS

5301 Arm-and-Hand Signals 105

Section IV. CONDUCT OF THE ASSAULT

5401 Planning 109

5402 Initial Ground Action 110

CHAPTER 6. OFFENSIVE COMBAT

Section I. GENERAL

6101 Purpose 111
6102 Phases of the Attack 111

Section II. PREPARATORY PHASE

6201 General 113
6202 Movement to Contact 113
6203 Final Preparations in the Assembly Area 122

Section III. CONDUCT PHASE

6301 General 128
6302 Movement to the Line of Departure 128
6303 Movement Forward of the Line of Departure to the Final Coordination Line 128
6304 Movement from the Final Coordination Line Through the Objective 133

Section IV. CONSOLIDATION AND REORGANIZATION PHASE

6401 General 136
6402 Consolidation 136
6403 Reorganization 137

Section V. EXPLOITATION AND PURSUIT

6501 Exploitation 138

6502 Pursuit 138

Section VI. NIGHT ATTACK

6601 General 140
6602 Control Measures 140
6603 Security Patrols 142
6604 Preparatory Phase for the Night Attack 143
6605 Conduct Phase of the Night Attack 144
6606 Consolidation and Reorganization Phase of the Night Attack 146

Section VII. INFILTRATION

6701 General 147
6702 Planning and Preparation 147
6703 Conduct of the Attack by Infiltration 150

CHAPTER 7. DEFENSIVE COMBAT

Section I. GENERAL

7101 Purpose 153
7102 General 153
7103 Defensive Missions of the Squad 155
7104 Preparation for the Defense 156

Section II. DEFENSIVE PROCEDURES

7201 Troop Leading Procedure in the Defense 157
7202 Squad Plan of Defense 158
7203 Squad Security 160

7204 Organization of the Ground 161
7205 Squad Defense Order 169
7206 Conduct of the Defense 172
7207 Defense Against Mechanized Attack 174
7208 Enemy Penetration of Adjacent and Rear Areas 174
7209 Local Security for Platoons and Companies 175
7210 Combat Outpost 176
7211 General Outpost 177

CHAPTER 8. PATROLLING

Section I. GENERAL CONSIDERATIONS

8101 General 179
8102 Security and Patrolling Techniques 179

Section II. PATROL ORGANIZATION

8201 General 187
8202 General Organization 187
8203 Special Organization 188
8204 Summary 189

Section III. PLANNING AND PREPARING THE PATROL

8301 Receipt of the Mission 190
8302 Patrol Steps 191
8303 Study the Mission 192
8304 Plan Use of Time 192
8305 Study Terrain and Situation 193
8306 Organize the Patrol 194
8307 Select Men, Weapons, and Equipment 194

8308 Issue Warning Order 195
8309 Coordinate (Continuous Throughout) 198
8310 Make Reconnaissance 199
8311 Complete Detailed Plans 199
8312 Issue Patrol Order 202
8313 Supervise (At All Times), Inspect, Rehearse, and Reinspect 204
8314 Execute the Mission 205

Section IV. CONDUCT OF PATROLS

8401 Formation and Order of Movement 206
8402 Departure and Reentry in Friendly Area(s) 206
8403 Rallying Points 208
8404 Actions Upon Contact With Enemy 210
8405 Actions at Danger Areas 211
8406 Actions at the Objective 212
8407 Control 212
8408 Navigation 212
8409 Security 212
8410 Use of Radios 214
8411 Infiltration 214
8412 Information and Reports 214

Section V. RECONNAISSANCE PATROLS

8501 Reconniassance Missions 219
8502 Organization of Reconnaissance Patrols 219
8503 Reconnaissance Patrol Equipment 220
8504 Conduct of a Reconnaissance Patrol 220

8505 Reconnaissance Patrol Actions at the Objective 220

Section VI. COMBAT PATROLS

8601 General 222
8602 Raid Patrols 223
8603 Security Patrols 226
8604 Contact Patrols 227
8605 Economy of Force Patrols 228
8606 Ambush 229
8607 Ambush Patrol 233

CHAPTER 9. SPECIAL TACTICS AND TECHNIQUES

Section I. OPERATIONS AGAINST GUERRILLAS

9101 General 241
9102 Characteristics of Guerrilla Operations 241
9103 Indoctrination for the Squad 242
9104 Establishing a Patrol Base 242
9105 Establishment of Control Over Civil Populace 247
9106 Patrol Operations Against Guerrillas 248
9107 Offensive Action Against Guerrillas 249
9108 Attacking Guerrilla Houses 250

Section II. ATTACK OF FORTIFIED AREAS

9201 General 252
9202 Technique of the Attack 254

Section III. COMBAT IN BUILT-UP AREAS

9301 General 258
9302 Attacking a Building 259

Section IV. TANK-INFANTRY COORDINATION

9401 General 265
9402 Tank Capabilities and Limitations 265
9403 Tank-Infantry Communications 266
9404 Infantry Protection of Tanks 268
9405 Target Designation 270
9406 Tank-Infantry Tactics 271

Section V. NUCLEAR AND CHEMICAL DEFENSE

9501 Introduction to Nuclear Defense 274
9502 Chemical Defense 280

Section VI. MINE WARFARE AND DEMOLITIONS

9601 Mine Warfare 288
9602 Demolitions 293

APPENDIXES:

A Military Symbols 297
B Method of Challenging By Guards and Sentries 305

LIST OF REFERENCES 307

INDEX 309

CHAPTER 1

GENERAL

Section I. MISSION

1101. MISSION

The mission of the rifle squad is to locate, close with, and destroy the enemy by fire and maneuver, or repel the enemy's assault by fire and close combat.

Section II. ORGANIZATION AND ARMAMENT

1201. ORGANIZATION OF THE RIFLE SQUAD

The rifle squad is divided into three fire teams, each of which is built around an automatic weapon and controlled by a fire team leader.

1202. COMPOSITION OF THE RIFLE SQUAD

The squad is composed of 13 men: a sergeant (squad leader) and three fire teams of four men each. Each fire team consists of a corporal (fire team leader), a lance corporal (automatic rifleman), and two privates or privates first class (riflemen). (See fig. 1.) One rifleman is designated as a grenadier/rifleman.

1203. WEAPONS

a. Organic Weapons.--The organic weapons of the squad are as follows:

(1) Squad Leader.--M16 rifle and bayonet knife.

(2) Fire Team Leader.--M16 rifle and bayonet knife.

(3) Automatic Rifleman.--M16 rifle and bayonet knife.

(4) Grenadier/Rifleman.--M16 rifle with a 40mm, M203 grenade launcher attached and bayonet knife.

(5) Rifleman.--M16 rifle and bayonet knife.

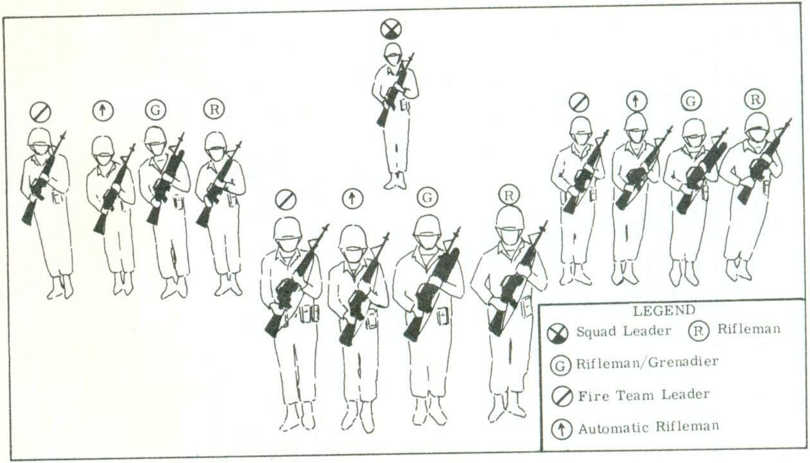


Figure 1.--Marine Rifle Squad.

b. Supplementary Weapons.--The following is a list of weapons and munitions available to members of the squad or personnel operating with the squad:

(1) Machineguns.
(2) Demolitions to include Claymore type weapons.
(3) Flame weapons.
(4) Rocket launchers/LAAW's.
(5) Grenade launchers.
(6) Hand grenades.
(7) Rifle grenades.
(8) Ground signals and flares.
(9) Antitank and antipersonnel mines.
(10) Mortars.
(11) Recoilless rifles.
(13) Riot control agent dispenser.

1204. DUTIES OF INDIVIDUALS

a. General.--Every man of a fire team must know the duties of the other team members, and in turn, the fire team leader and the squad leader should be able to assume the duties of their next superior.

b. Squad Leader.--The squad leader carries out the orders issued to him by the platoon commander. He is responsible for the discipline, appearance, training, control, conduct, and welfare of his squad at all times, and for the condition, care, and economical use of its weapons and equipment. In combat, he is also responsible for the tactical employment, fire discipline, fire control, and maneuver of his squad. He takes position where he can best carry out the orders of the platoon commander and observe and control the squad.

c. Fire Team Leader.--The fire team leader carries out the orders of the squad leader. He is responsible for the fire discipline and control of his fire team and for the condition, care, and economical use of its weapons and equipment. In carrying out the orders of the squad leader, he takes a position to best observe and control the fire team. Normally, he is close enough to the automatic rifleman and the grenadier/rifleman to exercise effective control of their fires. In addition to his primary duties as a leader, but not to the detriment of them, he serves as a rifleman. The senior fire team leader in the squad serves as assistant squad leader.

d. Automatic Rifleman.--The automatic rifleman carries out the orders of the fire team leader. He is responsible for the effective employment of the automatic rifle and for the condition and care of his weapon and equipment.

e. Grenadier/Rifleman.--The grenadier/rifleman carries out the orders of the fire team leader. He is responsible for the effective employment of the grenade launcher, his rifle, and for the condition and care of his weapons and equipment.

f. Rifleman.--The rifleman in the fire team carries out the orders of the fire team leader. He is responsible for the effective employment of his rifle and for the condition and care of his weapon and equipment. The rifleman is trained as a scout. The rifleman is prepared to assume the duties of the automatic rifleman.

Section III. LEADERSHIP AND COMMAND

1301. GENERAL

a. Military leadership is the art of influencing and directing men in such a way as to obtain their willing obedience, confidence, respect, and loyal cooperation in order to accomplish the mission.

b. The ultimate objective of military leadership is the accomplishment of the mission. Essential to this objective is the development and maintenance of effective, well-disciplined squads possessing high morale and esprit de corps.

c. A leader is a person who influences and directs others. In this capacity, a squad leader performs the following functions:

(1) Commands the squad.
(2) Accepts responsibility for the conduct of members of his squad.
(3) Sets the example.
(4) Teaches.
(5) Through leadership, develops and maintains discipline, high morale, and esprit de corps.

1302. LEADERSHIP PRINCIPLES

Leadership principles are basic guidelines to help the leader select appropriate actions and orders in his exercise of command These are:

a. Be technically and tactically proficient.

b. Know yourself and seek self-improvement.

c. Know your men and look out for their welfare.

d. Keep your men informed.

e. Set the example.

f. Ensure that the task is understood, supervised, and accomplished.

g. Train your men as a team.

h. Make sound and timely decisions.

i. Develop a sense of responsibility in your subordinates.

j. Seek responsibility and take responsibility for your actions.

k. Employ your unit in accordance with its capabilities.

1303. TROOP LEADING PROCEDURE

a. General.--The troop leading procedures listed below are aids in preparing for and executing assigned missions. They assist squad and fire team leaders in making the best use of time, facilities, and personnel. All the steps should be considered, but depending upon the mission and time available, the degree of consideration for each will vary.

b. Steps of Troop Leading Procedures

(1) Begin Planning.--When an order is received, proper use of available time must be planned. The squad/fire team leader uses a planning sequence called "reverse planning," meaning that he starts with the last action for which a time is specified and works back to receipt of the order. This helps ensure that time is allowed for all necessary action. During this stage, he also analyzes the terrain and the friendly and enemy situation. From this, he formulates a preliminary plan of action for accomplishing the mission. This plan is only tentative and will often be changed.

(2) Arrange for Reconnaissance and Coordination.--Select a route and prepare a schedule for reconnaissance and coordination with adjacent and supporting units.

(3) Make Reconnaissance.--On his reconnaissance, the squad leader completes his estimate of the situation. Prearranged meetings with adjacent squads and supporting units are held as scheduled. He notes the effects of the terrain on his preliminary plan and he rejects, adopts, or alters his plan as necessary. While on his reconnaissance, he selects a vantage point from which to orient his fire team leaders.

(4) Complete Plan.--After completing his reconnaissance, he reviews his preliminary plan and completes his plan of action. He then prepares notes to be used in issuing his order.

(5) Issue Order.--The squad leader orients his fire team leaders on the terrain

from the selected vantage point. If this is not possible, they are oriented from maps, sketches, or an improvised terrain model. He issues his order using the five-paragraph order sequence and includes everything his fire team leaders need to know. (See par. 1305.)

(6) Supervise Activities.--The squad leader continuously supervises his unit to ensure that his order is carried out as intended.

1304. ESTIMATE OF THE SITUATION

a. General.--The estimate of the situation is a problem-solving process. It is a method of selecting the course of action which offers the greatest possibility of success. At the squad level, the estimate is a rapid mental and continuous process and should be followed no matter how quickly a decision must be made.

b. METT.--The squad leader analyzes the courses of action and considers the advantages and disadvantages of each by using the following "yardsticks":

(1) Mission (M).

(2) Enemy (E).

(3) Terrain and weather (T).

(4) Troops and fire support available (T).

(5) These are collectively referred to as METT.

c. Estimate of the Situation Process.--By applying the factors of METT to each course of action, the best course is selected. This forms the basis of the squad leader's decision and is the goal of the estimate of the situation process. An explanation of the METT factors application follows:

(1) Mission.--The mission is a clear, concise, and simple statement of the task to be performed. It must be carefully examined and thoroughly understood. It is the basis for all actions of the squad until it is accomplished.

(2) Enemy.--Information concerning the enemy comes from many sources. The most reliable information is obtained by personal reconnaissance and no decision should be made without a reconnaissance when time permits. The important information about the enemy is his strength, location, composition, type weapons, disposition, tactical methods, and recent actions.

(3) Terrain and Weather.--The terrain and weather affect all plans and actions. They must be studied from both the friendly and enemy viewpoints. The squad's plan of action must take full advantage of the terrain. The weather, both present and predicted, will have an effect upon visibility, movement, and fire support. The military aspects of terrain (often referred to as KOCOA) are as follows:

(a) Key Terrain.--A key terrain feature is any locality or area the seizure or control of which gives a marked advantage to either opposing force. This advantage lies generally in terrain which affords good observation and fields of fire.

(b) Observation and Fields of Fire.--Observation is the ability of the unit to see the enemy locations. It assists in gaining information of the enemy, in accurately directing fire on him, and in controlling troops. Fields of fire are the areas that a weapon or group of weapons can cover and are essential to the effective employment of direct fire weapons. Observation and fields of fire should be considered both from friendly and enemy points of view.

(c) Cover and Concealment.--Cover is protection from enemy fire. Concealment is the hiding or disguising of a unit and its activities from enemy observation. Terrain features that offer cover also provide concealment. The greater the irregularity of the terrain, the more concealment it offers from ground observation.

(d) Obstacles.--Obstacles are natural or artificial terrain features which stop, delay, or restrict military movement. They may either help or hinder a unit, depending upon their location and nature. For example, a deep creek located across the direction of movement will slow up an attacker, while the same type of creek on the flank of an attacker affords a measure of security. In general, obstacles perpendicular to the direction of movement favor a defending force, while those parallel to the direction of movement may give the attacker an advantage by protecting the flanks.

(e) Avenues of Approach.--An avenue of approach is a terrain area which permits a route of movement for a force. It should also provide ease of movement, cover and concealment, favorable observation and fields of fire, and adequate maneuver room.

(4) Troops and Fire Support Available.--The squad leader considers his own unit's strength and location as compared with that of

the enemy. He should know what assistance is available from supporting weapons (machineguns, rocket launchers, mortars, recoilless rifles, flame weapons, tanks, artillery, naval gunfire, and aircraft).

1305. OPERATION ORDERS

a. General.--An operation order includes the situation, mission, concept of operation, and orders to subordinates, and whatever measures are required to ensure coordination of administrative, logistic, command, and communication matters. The squad leader issues his order orally.

b. Operation Order Format (SMEAC)

Paragraph 1. SITUATION

- a. Enemy Forces.--Consists of the composition, disposition, location, movement, capabilities, and recent activities of enemy forces.
- b. Friendly Forces.--A statement of the mission of the next higher unit, location and mission of adjacent units, and mission of nonorganic supporting units which may affect the actions of the unit.
- c. Attachments and Detachments.--Units attached to or detached from the squad by higher headquarters, including the effective time of attachment or detachment.

Paragraph 2. MISSION
A clear, concise statement of the task which the squad must accomplish.

Paragraph 3. EXECUTION

a. Concept of Operation.--The concept of operation is the squad leader's brief summary of the tactical plan for the operation.

b. Subordinate Missions.--In each succeeding subparagraph, missions are assigned to each fire team, the grenadier/rifleman, and any attached units.

c. Coordinating Instructions.--In the last subparagraph, coordinating instructions are given that apply to two or more subordinate units.

Paragraph 4. ADMINISTRATIVE AND LOGISTICS
This paragraph contains information or instructions pertaining to rations, ammunition, location of distributing point, corpsman, aid station, handling of prisoners of war, and other administrative and supply matters.

Paragraph 5. COMMAND AND SIGNAL

a. Special instructions on communications, which include such items as prearranged signals, the countersign, radio call signs and frequencies, emergency signals, radio procedures, pyrotechnics, and restrictions on the use of communications.

b. Location of the platoon commander.
c. Location of the platoon sergeant.
d. Location of the squad leader.

Section IV. COMBAT INTELLIGENCE AND COUNTERINTELLIGENCE

1401. GENERAL

a. Combat Intelligence

(1) Combat intelligence is that knowledge of the enemy, weather, and terrain which is used in the planning and conduct of tactical operations.

(2) The squad collects information of the enemy and terrain and reports it to the platoon leader.

b. Counterintelligence

(1) Counterintelligence is all measures, both passive and active, to deny to the enemy any information concerning friendly forces, plans, capabilities, and vulnerabilities.

(2) Marines deny the enemy this information by:

(a) Practicing good camouflage techniques.

(b) Using cover and concealment to keep themselves and their equipment concealed from ground and air observation.

(c) Practicing light and noise discipline.

(d) Proper use of the challenge and password. (See app. B.)

(e) Proper radio-telephone technique.

(f) Safeguarding all information that would be useful to the enemy.

(g) Abiding by the "Code of Conduct."

1402. SOURCES OF INFORMATION AND METHODS OF COLLECTION

a. Sources.--The best agency for collection of combat information is the individual Marine. The squad leader must ensure that his squad members are trained to observe and report immediately any enemy information and unusual terrain conditions. Marines gain information from the following enemy sources:

(1) Enemy Personnel.--By capture of enemy troops whenever possible.

(2) Enemy Documents.--By search of enemy prisoners, enemy dead, and enemy installations for documents. Documents are turned over to the squad or platoon commander. When documents are taken from prisoners, care must be taken to be sure that they can later be identified with the person from whom they were taken.

(3) Enemy Materiel.--By turning in or reporting the description and location of enemy materiel to the squad or platoon commander.

(4) Enemy Activity.--By observing and reporting what the enemy does or fails to do.

b. Methods of Collection.--The squad may also be given the mission to collect information by patrolling or by manning observation and listening posts.

1403. REPORTING INFORMATION

a. General.--Information must be reported as quickly, accurately, and as completely as possible. An established method to remember how and what to report about the enemy is by use of the letters of the word "SALUTE":

S ize
A ctivity
L ocation
U nit (Enemy--may be derived from unit markings, type uniform worn, or through prisoner-of-war interrogation.)
T ime
E quipment

An example of such a report is "Seven enemy soldiers, traveling SW, crossed road junction on BLACK RIDGE wearing green uniforms, at 211300 August carrying one machinegun and one rocket launcher."

b. Shell Reports (SHELREP).--The squad should also report all activity of enemy artillery, mortars, and bombs by using a SHELREP. The following format is suitable for either a written or oral report:

A lfa	From (or observer's call sign).
B ravo	Observer's location.
C harlie	Azimuth to enemy gun.
D elta	Time shelling started.
E cho	Time shelling stopped.
F oxtrot	Coordinates of area shelled, if a map is available.
G olf	Number and types of weapons fired.

H otel	Nature of fire; i.e., destruction, harassing, registration.
I ndia	Number and type of shells.
J uliet	Flash-bang time in seconds.
K ilo	Damage (usually in code).

c. Estimating Range By the Flash-Bang Method.--Sound travels about 330 meters per second (1,100 feet per second). When the observer sees the flash or smoke of a weapon, or the dust it raises, he starts counting seconds (one thousand one, one thousand two, etc.). He stops counting when he hears the report of the weapon. If he stops on the count of "one thousand three," for example, the range from the observer to the gun is three times 330 meters per second or 990 meters (3,300 feet). Marines should practice timing their count with the second hand of a watch to develop the correct speed.

d. Crater Analysis.--(See fig. 2.) If an observer is unable to determine the location of a gun by direct observation, he may be able to determine the line of flight of the projectile by examining the crater. Also, the type and caliber of weapon may be determined from identification of shell or fuze fragments and tail fins found in the crater. Information on the line of flight and type and caliber of the projectile is passed to the platoon leader.

1404. HANDLING PRISONERS OF WAR

a. General.--Prisoners of war (PW's) are one of the most valuable sources of information for intelligence purposes. They should

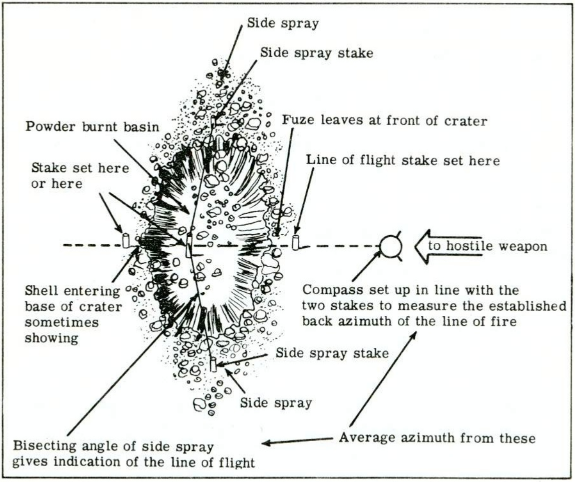

Side spray
Side spray stake
Powder burnt basin
Fuze leaves at front of crater
Line of flight stake set here
Stake set here
or here
to hostile weapon
Shell entering base of crater sometimes showing
Compass set up in line with the two stakes to measure the established back azimuth of the line of fire
Side spray stake
Side spray
Bisecting angle of side spray gives indication of the line of flight
Average azimuth from these

Figure 2.--Direction Determined From Side Spray.

be delivered to the platoon commander as quickly as possible.

b. The Five S's.--The five S's of PW handling should be used. They are:

(1) Search.--Prisoners are thoroughly searched for weapons and documents as soon as they have been captured. Weapons and documents should be tagged and immediately sent to the platoon commander.

(2) Segregate.--Prisoners are

segregated into groups: Officers, NCO's privates, deserters, civilians, and females. This prevents leaders from organizing escapes and issuing orders to subordinates.

(3) Silence.--Silence is essential. Prisoners must not be allowed to talk.

(4) Speed.--Speed is required in getting prisoners to the platoon commander. Timely information secured from prisoners is essential.

(5) Safeguard.--Prisoners are safeguarded as they are moved. They are restrained, but not abused. They are not given cigarettes, food, or water until authorized by assigned interrogators.

Section V. FIRE SUPPORT FOR THE SQUAD

1501. GENERAL

The rifle squad is assisted in accomplishing its mission by fires from supporting units.

a. Platoon Support.--The rifle platoon contains three rifle squads. Rifle squads within the rifle platoon may provide the fire support (base of fire) for the maneuver of one or more squads.

b. Company Support.--The weapons platoon of the rifle company contains 60mm mortars, machineguns, and rocket launchers. These are organized into a mortar section of three mortars, a machinegun section of six guns, and an assault section of six rocket launchers. The weapons platoon can:

(1) Employ 60mm mortars and machineguns to provide fires (base of fire) in support of maneuvering elements in the offense and for supporting the defense.

(2) Employ rocket launchers to provide effective assault fires against enemy fortified areas and obstacles and close-range antitank fires.

c. Battalion Support.--Headquarters and service company contains 81mm mortars, 106mm recoilless rifles, rocket launchers, and riot control agent dispensers. These are organized into a mortar platoon of eight mortars, a recoilless rifle platoon of eight 106mm recoilless rifles and a weapons section of four 3.5-inch rocket launchers and two riot control agent dispensers.

CHAPTER 2

TECHNIQUE OF FIRE

Section I. INTRODUCTION

2101. GENERAL

When squad members have completed individual marksmanship training, and before they commence combat firing in tactical problems, they must learn the techniques of rifle and grenade launcher fire. The techniques of fire are the application and control of the combined fire of a fire unit. A fire unit is a group of men whose combined fire is under the direct and effective control of a leader. The fire units which this manual discusses are the Marine rifle squad and its fire teams.

2102. TRAINING

The steps in technique of fire training and the sequence in which they are given are listed below. Detailed information can be found in FMFM 1-3, Basic Rifle Marksmanship, and FMFM 1-3A, Field Firing Techniques.

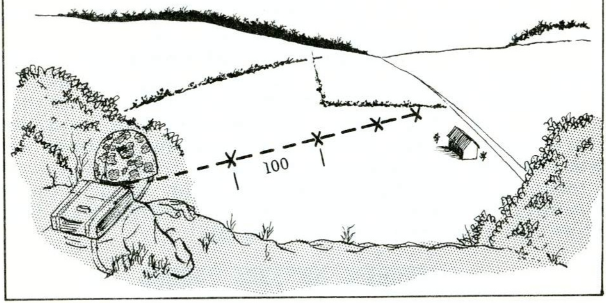
a. Target detection.

b. Field firing positions.

c. Range estimation.

d. Rifle and automatic rifle fire and its effect.

RANGES UP TO 500 METERS MAY BE DETERMINED BY APPLYING A 100-METER UNIT OF MEASURE.



FOR RANGES OVER 500 METERS SELECT THE HALFWAY POINT. ESTIMATE THE RANGE TO THAT POINT, THEN MULTIPLY THIS ESTIMATE BY TWO.

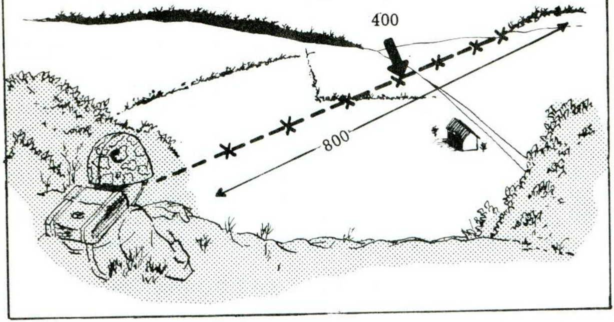


Figure 3.--Estimation By Eye.

b. Appearance of Objects.--When there are hills, woods, or other obstacles between the observer and target or where most of the ground is hidden from view, it is impractical to apply the mental unit of measure to determine range. In such cases, another method, based on appearance of objects, may be used. To use this method, the Marine learns through practice how familiar objects appear at various known ranges. For example, watch a man when he is standing 100 meters away. Fix the appearance of his size and the details of his features and equipment firmly in mind. Watch him in the kneeling position, then in the prone position. By comparing the appearance of a man at 100, 200, 300, and 500 meters, a series of mental pictures is established. When time and conditions permit, accuracy can be improved by averaging a number of estimates by different men to determine the range.

2203. OBSERVATION OF FIRE

Accurate range determination can be made by observing the strike of tracer or ball ammunition. An observer is necessary because it is difficult for a rifleman to follow his own tracer and see its impact. If this method is used, the range may be estimated quickly and accurately, but the possibility of achieving surprise is lost and the firing position may be revealed to the enemy. This procedure includes:

a. The firer estimates the range by eye, sets his sight for that range, and fires.

b. The observer follows the path of the tracer and notes the impact of the round.

c. The observer gives the firer sight corrections in clicks of elevation necessary to hit the target.

d. The firer makes sight changes and continues to fire and make corrections until a hit on the target is observed.

e. The final sight setting to hit the target (with consideration to the zero of the rifle) indicates the range to the target. The firer announces the range by voice or signal.

Section III. RIFLE AND AUTOMATIC RIFLE FIRE AND ITS EFFECT

2301. GENERAL

The second step in technique of fire training is rifle and automatic rifle fire and its effect. A knowledge of what the bullet does while it is in flight and an understanding of the effects of its fire on the enemy assist the rifleman or automatic rifleman in obtaining maximum effectiveness.

2302. TRAJECTORY

a. Trajectory is the path of a bullet in its flight through the air. The trajectory is almost flat at short ranges, but as range increases, the height of the trajectory increases. (See fig. 4.)

b. The space between the rifle and the target, in which the trajectory does not rise above the height of an average man (68 inches)

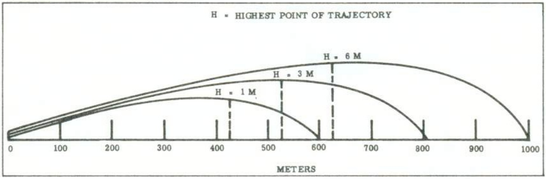


Figure 4.--Typical Trajectory Diagram Showing Maximum Ordinate (H) of Trajectory.

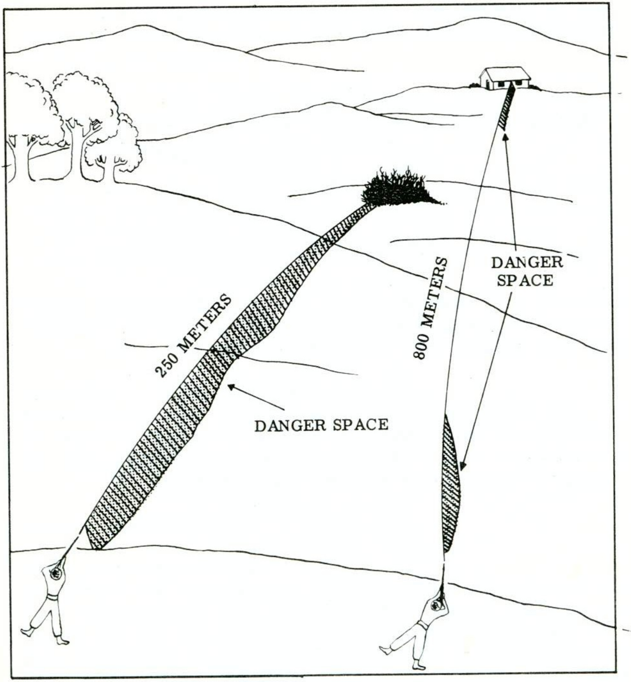


Figure 5.--Danger Space.

is called the danger space. (See fig. 5.) A bullet fired from the rifle at ground level (prone) at a target located at relatively short range gives continuous danger space, providing the ground is level or slopes uniformly. At greater ranges, only parts of the space between the gun and the target is danger space because the trajectory of the bullet rises above the head of a man of average height.

2303. CONE OF FIRE

Each bullet fired from a rifle at the same target follows a slightly different path or trajectory through the air. The small differences in trajectories are caused by slight variations in aiming, holding, trigger squeeze, powder charge, wind, or atmosphere. As the bullets leave the muzzle of a weapon, their trajectories form a cone shaped pattern known as the cone of fire. (See fig. 6.)

2304. BEATEN ZONE

The cone of fire striking a horizontal target forms a beaten zone which is long and narrow in shape. Beaten zones on horizontal targets vary in length. As range increases, the length of the beaten zone decreases. The slope of the ground affects the size and shape

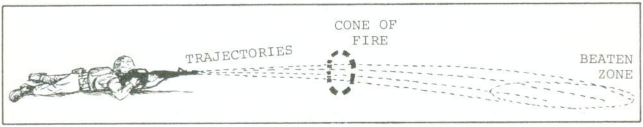


Figure 6.--Cone of Fire and Beaten Zone.

of the beaten zone. Rising ground shortens the beaten zone; ground sloping downward at an angle less than the curve of the trajectories lengthens the beaten zone. Ground that falls off at an angle greater than the fall of the bullets will not be hit and is said to be in defilade.

2305. CLASSES OF FIRE

Rifle fire is classified both with respect to the target (direction) and with respect to the ground.

a. Fire With Respect to the Target.--(See figs. 7 and 8.)

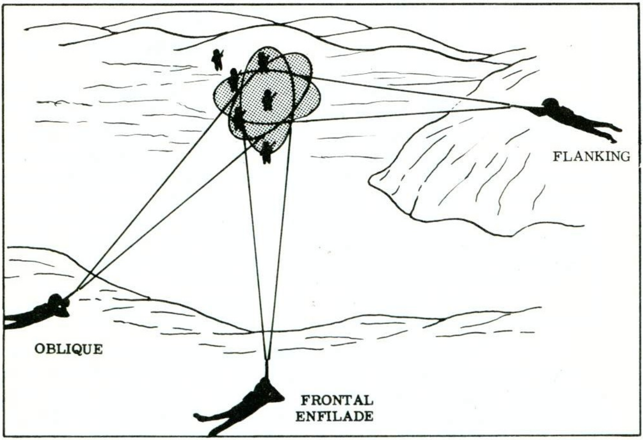


Figure 7.--Fire With Respect to the Target (Example 1).

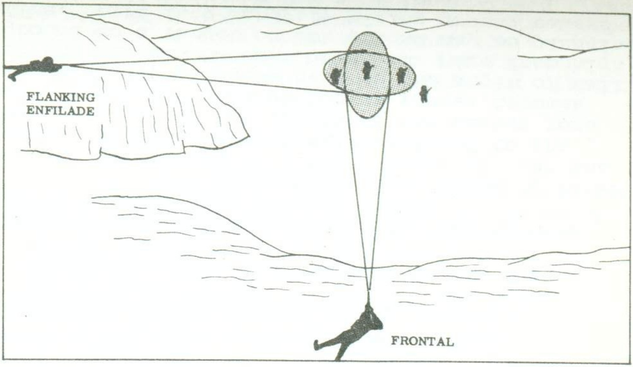


Figure 8.--Fire With Respect to the Target (Example 2).

(1) Frontal Fires.--Fires delivered at right angles to the front of a target.

(2) Flanking Fires.--Fires delivered against the flank of a target.

(3) Enfilade Fire.--Fire delivered so that the long axis of the beaten zone coincides or nearly coincides with the long axis of the target. Enfilade fire may be either flanking or frontal. (See figs. 7 and 8.)

b. Fire With Respect to the Ground.--(See fig. 9.)

(1) Grazing Fires.--Grazing fires do not rise above the height of a man standing. Rifle fire from the prone position may provide

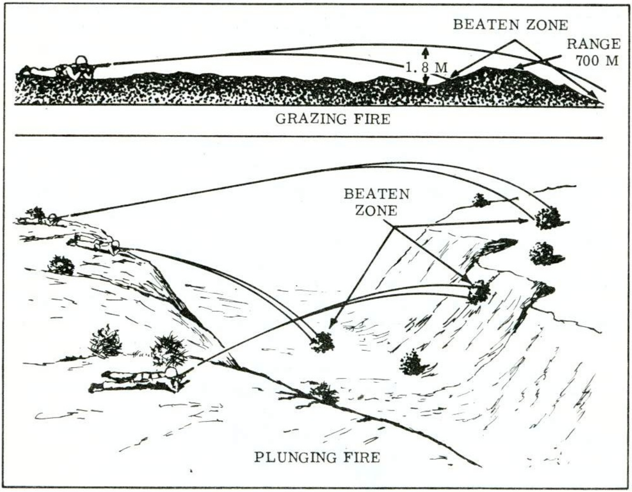


Figure 9.--Fire With Respect to the Ground.

grazing fire at ranges up to 700 meters over level or uniformly sloping ground.

(2) Plunging Fires.--Plunging fires strike the ground at a high angle, so that the danger space is practically confined to the beaten zone and the length of the beaten zone is shortened. Fire at longer ranges becomes increasingly plunging because the angle of fall of the bullets becomes greater. Fire from high ground to a target on low ground may be plunging fire. Fire into abruptly rising ground causes plunging fire at the point of impact.

(3) Overhead Fires.--Overhead fires are delivered over the heads of friendly troops. Rifle fire is considered safe when the ground protects the friendly troops to the front or if they are in position at a sufficient distance below the line of fire.

2306. EFFECT OF RIFLE FIRE

a. The best effects from rifle fire are obtained when the squad is close to the enemy. The squad should use cover and concealment offered by terrain and take advantage of the supporting fires of machineguns, mortars, and artillery to advance as near to the enemy as possible before opening fire. Normally, it should not open fire at ranges greater than 460 meters, the maximum effective range of the rifle.

b. Under favorable conditions, the rifle may be used against enemy groups or area targets at ranges between 460 to 1,000 meters.

c. The area in which the enemy is located can usually be determined by the sound of his firing. Troops may distribute continuous fire in width and depth to cover the entire area, causing the enemy to keep his head down and making his fire ineffective.

Section IV. M203 GRENADE LAUNCHER

2401. GENERAL

For effective use of the M203 grenade launcher, an understanding of its employment, trajectory, method of firing, and firing effects is necessary.

2402. EMPLOYMENT

a. Offense.--In the offense, the grenadier/rifleman is assigned the primary mission of a rifleman. However, he can employ the M203 grenade launcher in the following manner under the control of the fire team leader:

(1) Grenadier/rifleman can engage targets of opportunity as squad moves towards the final coordination line.

(2) As the squad approaches or reaches the final coordination line, the grenadier/rifleman can provide covering fire as the squad deploys for the assault.

(3) During the assault, the grenadier/rifleman will function as a rifleman until a suitable target appears. Upon command of the fire team leader or based on his own estimate of the situation, the grenadier/rifleman will destroy or neutralize the targets utilizing the M203 grenade launcher.

(4) Due to the inherent capabilities of the weapon, the M203 grenade launcher is ideally suited for providing overhead fires as part of a base of fire in support of maneuvering elements.

b. Defense.--The grenadier/rifleman primarily functions as a grenadier in the conduct of the defense. His primary responsibility is to cover gaps in the final protective line of machineguns. In addition, he can cover the most likely avenues of approach into the defensive position, reinforce fires on close-in targets, and support counterattacks against enemy penetrations.

2403. TRAJECTORY

The grenade launcher is characterized by a higher angle of fire. At ranges up to 150 meters, the trajectory is relatively flat, and thus, the grenade launcher is fired from the shoulder in the normal manner. As the range increases, the height of the trajectory and the time of flight of the projectile increase. The effect of wind increases with the length of time the projectile is in the air.

2404. FIRING POSITIONS

a. The most commonly used firing positions are the prone, kneeling, foxhole, and standing positions. Supported positions add stability to the weapon and should be used whenever possible; however, the grenadier must ensure that no part of the launcher touches the support.

b. There are two methods for holding the weapon:

(1) The left hand grips the magazine of the M16 rifle with the left index finger positioned in the trigger guard of the M203

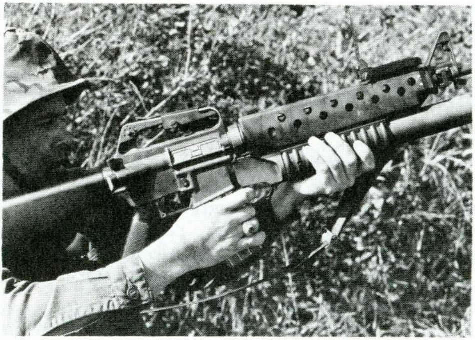


Figure 10.--Grip Methods.

while the right hand grips the pistol grip.

(2) The right hand grips the magazine of the M16 rifle with the right index finger positioned in the trigger guard of the M203 while the left hand grasps the hand grip of the barrel assembly. (See fig. 10.)

2405. METHODS OF FIRING

a. Aimed Fire.--At ranges up to 150 meters, the grenadier/rifleman can fire from the shoulder in the normal manner from all positions using the sight leaf of the quadrant sight. However, in order to maintain sight alignment at ranges greater than 150 meters, he must make the following adjustments:

(1) Use the quadrant sight at

ranges in excess of 200 meters.

(2) In the modified prone position, the position of the butt of the rifle depends on the configuration of the grenadier/rifleman's body, the position of the shooter's hand on the weapon, and the range to the target.

(3) In other firing positions, lower the stock to an underam position in order to maintain sight alignment.

b. Pointing Technique.--The pointing technique is used to deliver a high rate of fire on area targets. Although the sights are not used in the pointing technique, the grenadier/rifleman must first be proficient in sighting and aiming, using the sight leaf and quadrant sight. He uses a modified underarm firing position which enables him to use his

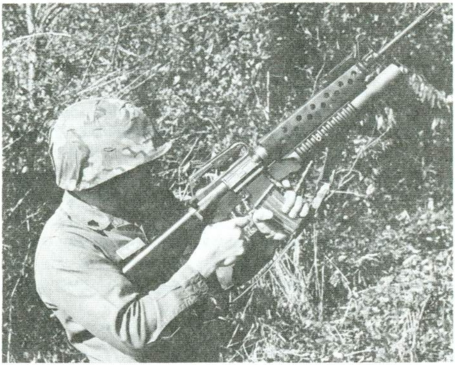


Figure 11.--Pointing Technique.

left hand for rapid reloading. Although the pointing technique can be used by modifying any standard firing position, it is most frequently used during the assault. (See fig. 11.)

2406. EFFECT OF GRENADE LAUNCHER FIRE

The high explosive grenade has an effective casualty radius of 5 meters. The effective casualty radius is defined as the radius of a circle about the point of detonation in which it may be expected that 50 percent of exposed troops will become casualties.

Section V. FIRING OF THE M79 GRENADE LAUNCHER

2501. AIMED FIRE

a. At ranges less than 150 meters, the grenade launcher is aimed and fired in much the same manner as the rifle. At these ranges, the grenade launcher can be employed against all types of point targets.

b. At ranges from 150 to 350 meters, the grenade launcher is not effective against point targets; however, it can be effectively employed against area targets or groups of personnel.

2502. POINTING TECHNIQUE

The pointing technique can be used to increase the volume of fire on area targets. Sights are not used. The launcher is merely pointed toward the target. The pointing technique can be used from any firing position; however, it is most frequently used during the assault.

2503. INDIRECT FIRE

a. Successful use of the grenade launcher as an indirect fire weapon is achieved by marking the sling for specific, prefired ranges. This method is excellent for marking enemy snipers, automatic weapons, positions, or as an accurate area weapon.

b. Deflection is attained by sighting

over or along the side of the barrel at an aiming point. The correct elevation is achieved by estimating the range to the target and moving the barrel either up or down. The following computations can be used as a guide for setting the proper elevation on the weapon.

Range	Elevation	Distance From Front Sling Swivel to Ground
200 Meters	69 Degrees	21 1/4 Inches
300 Meters	58 Degrees	19 3/8 Inches
400 Meters	41 Degrees	13 1/4 Inches

Section VI. FIRE COMMANDS

2601. IMPORTANCE AND PURPOSE

Since enemy troops are trained in the use of cover and concealment, targets are often indistinct or invisible, seen only for a short time, and rarely remain uncovered for long. When a target is discovered, leaders and squad members must define its location rapidly and clearly. Squad members are trained to identify the target area quickly and accurately and to place a high volume of fire on it even though no enemy personnel may be visible. A small point target like an enemy sniper might be assigned to only one or two riflemen, while a target of considerable width like an enemy skirmish line requires the combined fires of the entire squad. As an aid in designating various types of targets, all members of the squad must become familiar with the topographical terms frequently used in designating targets; for example, crest, hill, cut, fill, ridge, bluff, ravine, crossroads, road junction, and skyline. (See fig. 12.) When the squad or fire team leader has made a decision to fire on a target, he gives certain instructions as to how the target is to be engaged. These instructions form the fire command. The leader directs and controls the fire of his fire unit by fire commands.

2602. ELEMENTS

A fire command contains six basic elements that are always announced or implied. Fire commands for all weapons follow a similar

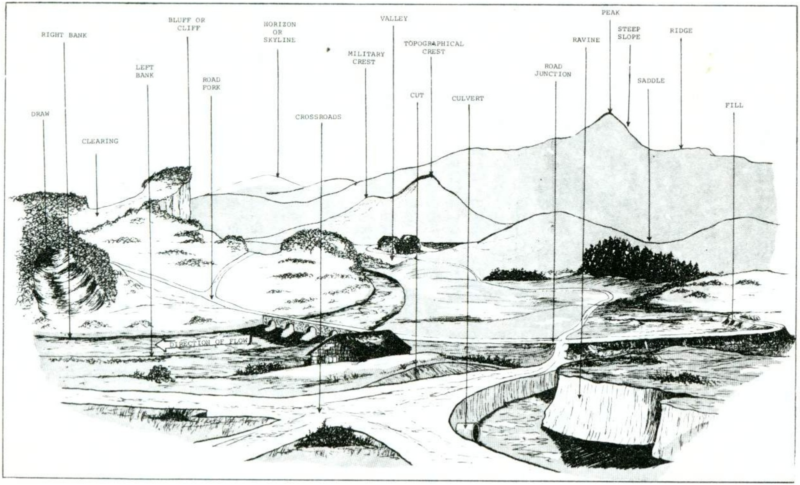


Figure 12.--Topographical Terms.

order and include similar elements. Only essential elements are included. The six elements of the fire command are:

a. Alert.

b. Direction.

c. Target description.

d. Range.

e. Target assignment.

f. Fire control.

2603. ALERT

This element alerts the fire unit to be ready to receive further information. It may also tell who is to fire. Usually, it is an oral command, SQUAD or FIRE TEAM. The leader may alert only a few individuals by calling them by name. The alert may also be given by signals, personal contact, or by any other method the situation may indicate.

2604. DIRECTION

The direction element tells which way to look to see the target. This may be given orally or by pointing. Figure 13 shows the general directions used in indicating the direction of the target from the friendly element.

a. Tracer Ammunition

(1) Tracer ammunition is a quick and

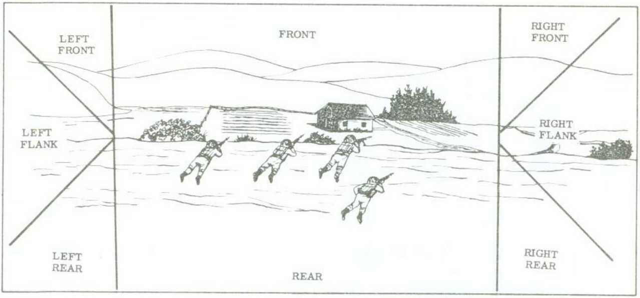


Figure 13.--General Directions.

sure way to indicate direction and is the most accurate method of pinpointing targets. Whenever possible, the leader should give the general direction orally. This will direct the squad's attention to the desired area. For example:

"FRONT."--"WATCH MY TRACER."
(Fire 1st round)--"RIGHT FLANK."
(Fire 2d round)--"LEFT FLANK."

(2) Firing tracer ammunition to designated targets may give the firer's position away and it will most certainly alert the enemy and reduce the advantage of surprise. To minimize the loss of surprise, the leader may wait until all other elements of the fire command are given before firing his tracer. In this case, the firing of the tracer can be the signal to commence firing.

b. Reference Points

(1) To help the members of the fire unit locate indistinct targets, the leader may use reference points to give direction to the target. He selects a reference point that is near the target and easy to recognize.

(2) When using a reference point, the word REFERENCE in describing the reference point and the word TARGET in describing the target are used. This prevents the members of the fire unit from confusing the two; for example:

"SQUAD."
"FRONT."
"REFERENCE: ROCK PILE IN DRAW."
"TARGET: SNIPER IN FIRST TREE TO THE RIGHT, ONE FIVE ZERO."

(3) When using a reference point, the direction refers to the reference point, but the range is the range to the target.

(4) Sometimes a target can best be located by using successive reference points; for example:

"FIRST TEAM."
"REFERENCE: STONE HOUSE. RIGHT OF STONE HOUSE, SMALL SHED."
"TARGET: MACHINEGUN IN FIRST HAYSTACK RIGHT OF SHED, TWO FIVE ZERO."

c. Finger Measurement

(1) Distances across the front, known as lateral distances, are difficult to estimate in terms of meters. To measure the distance right or left of a reference point, or to measure the width of a target from one flank to another, finger measurements may be used.

(2) The method of using finger measurements is as follows:

(a) Hold the hand at arm's length, palm to the rear, index finger pointing upward.

(b) Close one eye.

(c) Sight along the sides of the finger so that one edge of the finger is on the reference point or flank of the target. Note where the line of sight over the other edge of the finger strikes the ground or target. This is the measurement for one finger.

(d) Note the space remaining between the two points being measured and then fill that space by raising more fingers until the space is covered.

(3) An example of the use of finger measurement is as follows:

"SQUAD."
"FRONT."
"REFERENCE: TALL TREE AT EDGE OF HEDGE ROW, RIGHT TWO FINGERS."
"TARGET: MACHINEGUN, THREE HUNDRED."

2605. TARGET DESCRIPTION

The third element of the fire command is a brief and accurate description of the target.

2606. RANGE

Range gives the information needed to set the sight or to adjust the point of aim. The word RANGE is not used. Examples of range are: ONE SEVEN FIVE, TWO FIVE ZERO, or FOUR HUNDRED.

2607. TARGET ASSIGNMENT

The assignment element tells who is to fire on the target. The "who" may have been announced in the alert element; if so, the target assignment element is omitted. When the leader intends to alert the entire unit, but plans to use only part of the unit's fire on a target, the target assignment element is included.

2608. FIRE CONTROL

The fire control element consists of a command or signal to open fire. The leader may also use this element to specify the amount of ammunition to be fired. If surprise fire is not required, the command COMMENCE FIRING normally is given without a pause as the last element of the fire command. When the leader wants all his weapons to open fire at once in order to achieve maximum surprise and shock effect, he will say AT MY COMMAND or ON MY SIGNAL. When all men are ready, the leader gives the command or signal to commence firing. Examples of the fire control element are:

a. "SQUAD, ONE MAGAZINE, GRENADIER, FIVE ROUNDS, ON MY SIGNAL." (Signal commence firing.)

b. "AUTOMATIC RIFLE, TWO MAGAZINES, SHORT BURSTS, COMMENCE FIRING."

2609. SIGNALS

Since oral commands are likely at times to be unheard because of battle noise, it is essential that the members of fire units also understand visual and other signals. These signals must be used constantly in training. Standard arm-and-hand signals applicable to fire commands are described in chapter 3.

2610. DELIVERY OF FIRE COMMANDS

Examples of complete fire commands are as follows:

a. In this example, the leader wants to place the fire of his entire unit on an easily recognized target:

"SQUAD."
"FRONT."
"TROOPS."
"THREE HUNDRED."
"AT MY SIGNAL."

b. In this example, the leader desires to designate the target to his entire unit, but wants only the second fire team to engage it. Because the target is indistinct, he uses a reference point.

"SQUAD."
"RIGHT FRONT."
"REFERENCE: STONE HOUSE, RIGHT TWO FINGERS."
"TARGET: MACHINEGUN TWO FIVE ZERO."
"SECOND TEAM, COMMENCE FIRING."

Section VII. APPLICATION OF FIRE

2701. GENERAL

The potential firepower of the 13-man squad is conservatively estimated at 250 well-aimed rifle shots and 15 rounds from the grenade launchers per minute.

2702. TYPES OF UNIT FIRE

a. General

(1) The size and nature of a target may call for the firepower of the entire fire unit or only parts of it. The type of target suggests the type of unit fire to be employed against it. The squad leader receives his orders from the platoon commander who usually designates a specific target or targets. It is usually desirable for each squad to cover the entire platoon target to ensure adequate coverage.

(2) A fire team distributes its fire as designated by the squad leader. Normally, the squad leader orders a fire team leader to limit the fire of his team to a sector of the squad target, to engage a separate target, or to shift to a target of opportunity.

b. Concentrated Fire.--Concentrated fire is fire delivered from a deployed unit at a single point target. Since a large volume of fire is delivered at the target from different directions causing the beaten zones of the various weapons to meet and overlap, it gives maximum coverage of the target. An enemy automatic weapon that has gained fire superiority and has pinned down a unit can often be eliminated by concentrated fire from that part of the unit not under direct fire.

c. Distributed Fire

(1) Distributed fire is fire spread in width and/or depth to keep all parts of the target under fire. Each rifleman fires his first shot on that portion of the target that corresponds to his position in the squad. He then distributes his remaining shots over that part of the target extending a few meters right and left of his first shot. He covers that portion of the target on which he can deliver accurate fire without changing his position.

(2) The grenadier/rifleman fires his first round in the center of the mass of the target. He then distributes his shots over the remaining target area.

(3) The portion of the target which each man can cover depends upon his position and the range. Whenever possible, each man should cover the entire target. Unless otherwise instructed, the automatic riflemen cover the entire squad target.

(4) Distributed fire permits fire unit leaders to place the fire of their units on target so that the enemy, whether visible or not, is kept under fire. This method is employed without command. Distributed fire is the quickest and most effective method of ensuring that all parts of the target are brought under fire.

d. Combinations of Concentrated and Distributed Fire.--The fire team organization of the Marine rifle squad permits the squad leader to combine both concentrated and distributed fire in engaging two or more targets at the same time. As an example, the squad leader of a squad delivering distributed fire on a target could shift the fire of one fire team to engage a target of opportunity with concentrated fire.

2703. FIRE DELIVERY

a. Requirements of Position.--In occupying a firing position, squads are located to satisfy the following requirements:

(1) Be capable of delivering desired fire support.
(2) Possess good fields of fire to the front.
(3) Have adequate cover and concealment.
(4) Permit fire control by the fire unit leader.

b. In the Attack

(1) Base of Fire.--A base of fire covers and protects the advance of maneuvering units with its fire. Whenever possible, the fire unit that is to establish the base of fire moves undetected into a firing position. A high volume of surprise fire from an unexpected direction has a much greater psychological and physical effect than fire delivered from a known position. The leader of the unit establishing the base of fire makes every effort to select a position that allows flanking or oblique fire to be delivered into the enemy position. When the base of fire unit is in

position, the following usually takes place:

(a) A heavy volume of distributed fire is placed on the enemy position to gain fire superiority.

(b) When fire superiority has been gained and the enemy is pinned down, the rate of fire is reduced. However, fire superiority must be maintained.

(c) When the maneuver element nears its final coordination line, the rate of fire is increased to cause the enemy to "button up" tightly, and allow the maneuver element to initiate its assault before the enemy has time to react.

(d) When the assault begins or on signal, the base of fire either ceases, shifts its fire to another target area, or leads the assault unit across the objective and then ceases or shifts.

(2) Assault Fire.--Successful advance by fire and maneuver leads naturally to an assault of the target area or objective. Assault fire is that fire delivered by a unit during its assault on a hostile position.

(a) Riflemen.--The riflemen fire well-directed shots from the pointing position. They fire as rapidly as possible at known or suspected enemy locations on the portion of the objective which corresponds w with their position in the assault formation.

(b) Automatic Riflemen.--The automatic riflemen fire in two- or three-round bursts from the underarm firing position. They cover as much of the objective area as possible. Priority of fire is given to known or suspected enemy automatic weapons. (See fig. 14.)

(c) Grenadier/Rifleman.--The

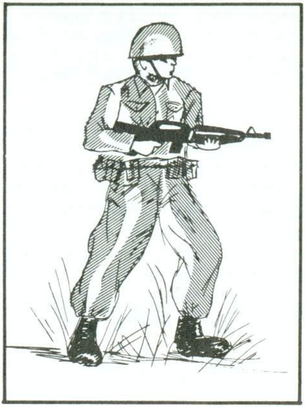


Figure 14.--Assault Fire Position (Underarm).

grenadier/rifleman fires well directed rifle fire from either the offhand or underarm position. Once a hardened or area target presents itself, based on the fire command of the fire team leader or on the grenadier/rifleman's own initiative, he will commence to fire the grenade launcher until the target is destroyed/neutralized, or until he cannot place effective fire on the target without endangering friendly troops. He then reverts to the role of a rifleman.

c. In the Defense.--In the defense, the squad delivers fire from positions which it must hold at all costs. Members of the unit are placed where they can obtain good fields of fire and can take maximum advantage of cover and concealment.

(1) Riflemen and Automatic Riflemen.--The riflemen and automatic riflemen are assigned sectors of fire. In addition, each automatic rifleman is assigned a principal direction of fire. The bulk of the firepower of the squad is found in the automatic rifle and the grenade launcher. They must be protected and kept in operation. Positions selected for the riflemen must fulfill this purpose.

(2) Grenadier/Rifleman.--The grenadier/rifleman will be assigned a sector of fire. His priority of fires should be: first, to cover gaps in the final protective line of machineguns; second, to cover the most dangerous avenues of approach into the defensive position; and third, to provide protection for crew-served weapons.

2704. REDUCED VISIBILITY FIRING

a. Rifle and Automatic Rifle.--Under conditions of reduced visibility, the rifle and automatic rifle can be used to deliver preplanned fire by constructing a simple rest for the weapon. When the rifle or automatic rifle is used for this purpose, all preparations are made during daylight. In addition to sighting the rifle and erecting the rest and stake, sights are set and fire adjusted on the target in advance. (See fig. 15.)

b. Grenade Launcher.--In periods of reduced visibility, the grenade launcher can be used effectively to deliver preplanned fires. When planning these fires, the squad leader

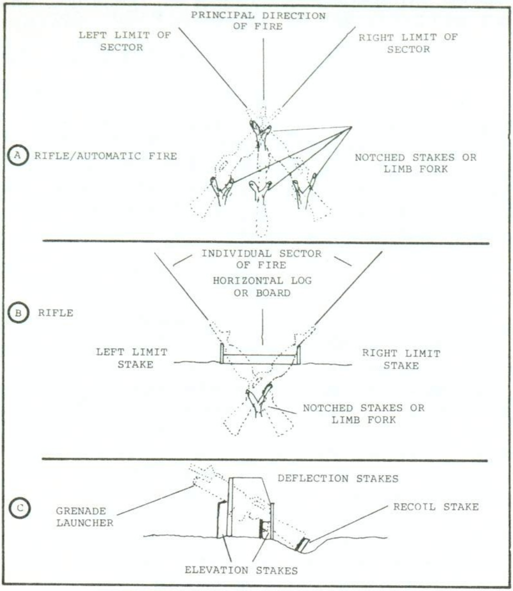


Figure 15.--Field Expedients for Delivery of Preplanned Fires.

should give priority to likely avenues of approach and probable enemy assault positions. All preparations are made during daylight. The weapon is emplaced and sights adjusted prior to darkness. (See fig. 15.)

2705. RATE OF FIRE

a. The Marine is trained to fire approximately 10 aimed shots per minute. Difficulties encountered in battle usually make a slower rate advisable. The maximum rate at which any rifleman or automatic rifleman should fire is determined by his ability to select targets, align the sights, and squeeze off accurate shots.

b. The automatic rifle is particularly valuable against targets such as machineguns and automatic weapons. The maximum effective rate of fire for the automatic rifle is from 40 to 60 rounds per minute. Determination of the rate of fire for the automatic rifle is governed by the nature of the target. When beginning a fire fight, the first few rounds of rifle fire and automatic rifle fire should be delivered at the maximum rate in order to pin down the enemy. Thereafter, the rate should be slowed to the rate which is sufficient to maintain fire superiority.

2706. FIRE DISCIPLINE

Fire discipline implies careful attention to instructions relative to the use of the rifle, automatic rifle, and grenade launcher in combat and the exact execution of fire orders. Fire discipline is necessary for proper control and upon this control depends the effectiveness of collective unit fire.

2707. FIRE CONTROL

a. Fire control is the ability of the leader to have his men open fire or cease fire at the instant he desires, to adjust fire upon the target, to shift all or part of the fire from one target to another, and to regulate the rate of fire. It is essential to the effectiveness of collective fire.

b. The leader of a unit must supervise and control the fire of his men so that it is directed and maintained at suitable targets. Upon receipt of orders, commands, or signals from the platoon commander, a squad leader promptly causes his squad to perform the fire mission directed. He is normally located at the rear of his squad during a fire fight. He usually gives his orders to the squad through the fire team leaders, but he does whatever is necessary to apply and control the fire of his squad effectively. Squad leaders and fire team leaders exercise fire control by means of orders, commands, and signals.

CHAPTER 3

COMBAT FORMATIONS AND SIGNALS

Section I. COMBAT FORMATIONS

3101. GENERAL

Combat formations and signals enable the squad leader to control the fire and maneuver of his squad when moving to and assaulting an enemy position.

3102. BASIC COMBAT FORMATIONS

a. Fire Team.--Basic combat formations (see fig. 16) are:

(1) Column.
(2) Wedge.
(3) Skirmishers right (left).
(4) Echelon right (left).

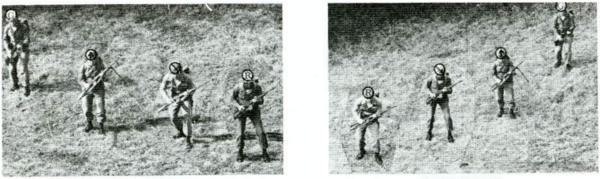
b. Squad.--Basic combat formations (see figs. 17-22) are:

(1) Squad column (column of fire teams).
(2) Squad wedge (one fire team forward, one fire team back).
(3) Squad vee (two fire teams forward, one fire team back).
(4) Squad line (line of fire teams).
(5) Squad echelon right (left).

c. Individual Disposition

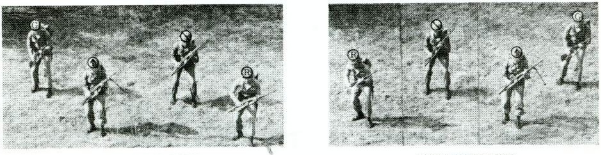
(1) Figure 16 illustrates the disposition of individuals in all of the basic combat formations of the fire team.

(2) The squad leader places himself within the squad formation where he can best



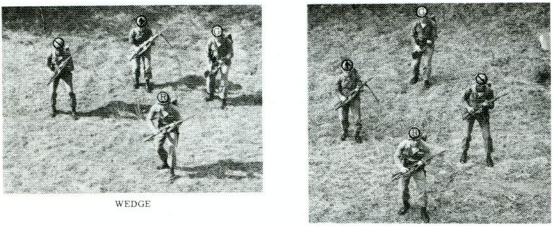
ECHELON RIGHT

ECHELON LEFT



SKIRMISHERS RIGHT

SKIRMISHERS LEFT



WEDGE

COLUMN

Figure 16.--Basic Combat Formations of the Fire Team.

exercise control. The fire team leaders place themselves in the designated formations or as directed by the squad leader. Other members of the squad take their appropriate positions based on the location of the fire team leader or as he directs.

(3) The distance between men vary within a formation, depending on visibility and terrain. While maximum dispersion is desirable to reduce vulnerability to direct and indirect fires, effective control must be maintained.

(4) Combat formations are selected to conform to the factors of METT. When it becomes necessary to modify them, the changes are made by the shortest practicable route avoiding backward and lateral movement.

3103. CHARACTERISTICS

a. Fire Team Formations.--The characteristics of fire team formations are as follows:

(1) Column

(a) Facilitates control.

(b) Favors fire and maneuver to the flanks.

(c) Vulnerable to fire from the front.

(d) Fire to the front is limited.

(e) Used when speed and control are governing factors such as through woods, fog, smoke, and along roads and trails.

(2) Wedge

(a) Facilitates control.

(b) Provides all-round security.

(c) Formation is flexible.

(d) Fire is adequate in all

directions.

(e) Used when enemy situation is uncertain and terrain and visibility require dispersion.

(3) Skirmishers Right (Left)

(a) Difficult to control.

(b) Maximum firepower to front.

(c) Used when the location and strength of the enemy are known, during the assault, mopping up, and crossing short open areas.

(4) Echelon Right (Left)

(a) Difficult to control.

(b) Movement is slow, especially under conditions of reduced visibility.

(c) Provides heavy firepower to front and in direction of echelon.

(d) Used to protect an open or exposed flank.

b. Squad Formations.--The characteristics of squad formations are similar to those of the fire team. The vee formation used by the squad is not used by the fire team. The fire team's skirmishers right (left) formation is called squad line.

(1) Squad Vee

(a) Facilitates movement into squad line.

(b) Provides excellent firepower to front and flanks.

(c) Provides all-round security.

(d) Used when the enemy is to the front and his strength and location are known. May be used when crossing large open areas.

(2) Squad Line.--See discussion under fire team formations for skirmishers right (left) in subparagraph 3103a(3).

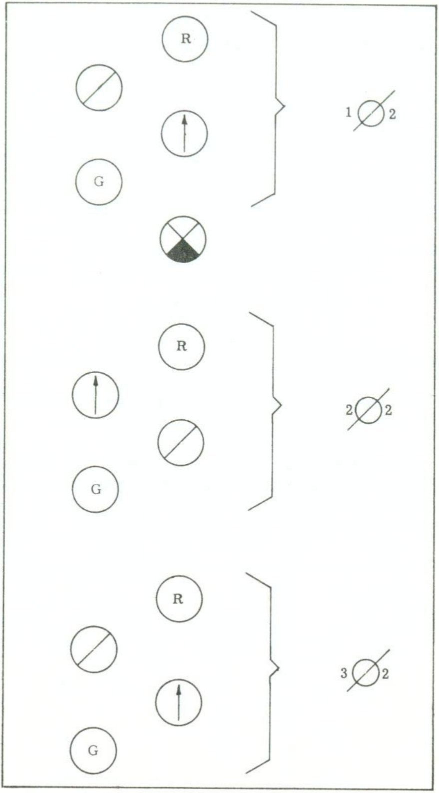


Figure 17.--Squad Column (Fire Teams in Column).

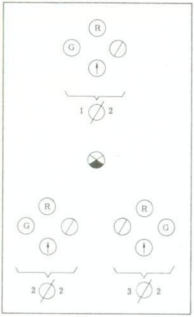


Figure 18.--Squad Wedge (Fire Teams in Wedge).

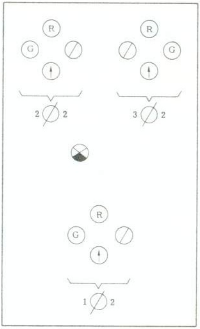


Figure 19.--Squad Vee (Fire Teams in Wedge).

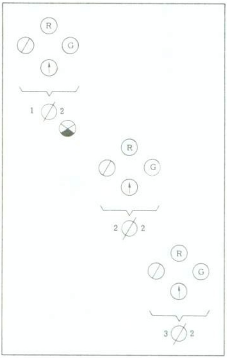


Figure 20.--Squad Echelon Right (Fire Teams in Wedge).

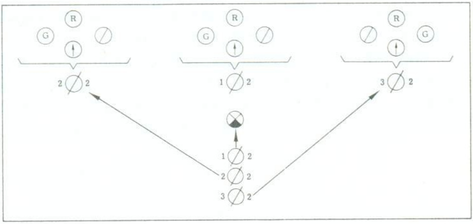


Figure 21.--Squad Line (Fire Teams in Wedge).

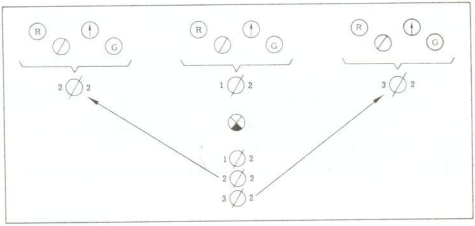


Figure 22.--Squad Line (Fire Teams in Skirmishers Right or Left).

Section II. SIGNALS

3201. GENERAL

Signals are used to transmit commands or information when voice communications are difficult or impossible or when silence must be maintained. Subordinate leaders repeat signals to their units whenever necessary to ensure prompt and correct execution.

3202. WHISTLE

The whistle is an excellent signal device for the small unit leader. However, there is the danger that whistle signals from adjacent units may be compromising. It provides a fast means of transmitting a message to a large group. However, unless the signal is prearranged and understood, it may be misinterpreted. The whistle's effectiveness may be reduced by normal noises which exist on the battlefield.

3203. SPECIAL

Special signals consist of all special methods and devices used to transmit commands or information. The squad leader, operating at night, may use taps on his helmet or rifle butt to signal "halt," "danger," "move forward," or "assemble here." These signals must be understood and rehearsed prior to their use. Various pyrotechnic and smoke signals may be used as signals to attack, withdraw, mark frontlines, indicate targets, and cease or shift fire. Before leaders devise others, they should check with their platoon commander to make sure that they are not using a signal which already has a set meaning.

3204. ARM-AND-HAND

Explanations and diagrams of standard arm-and-hand signals are given in figure 23. See FM 21-60, Visual Signals, for detailed information concerning arm-and-hand signals.

1. DECREASE SPEED

Extend the arm horizontally sideward, palm to the front, and wave arm downward several times, keeping the arm straight. Arm does not move above the horizontal.

2. CHANGE DIRECTION; or COLUMN (RIGHT OR LEFT)

Extend arm horizontally to the side, palm to the front.

3. ENEMY IN SIGHT

Hold the rifle horizontally, with the stock in the shoulder, the muzzle pointing in the direction of the enemy.

4. RANGE

Extend the arm fully toward the leader or men for whom the signal is intended with fist closed. Open the fist exposing one finger for each 100 meters of range.

5. COMMENCE FIRING

Extend the arm in front of the body, hip high, palm down, and move it through a wide horizontal arc several times.

6. FIRE FASTER

Execute rapidly the signal COMMENCE FIRING. For machineguns, a change to the next higher rate of fire is prescribed.

Figure 23.--Arm-and-Hand Signals.

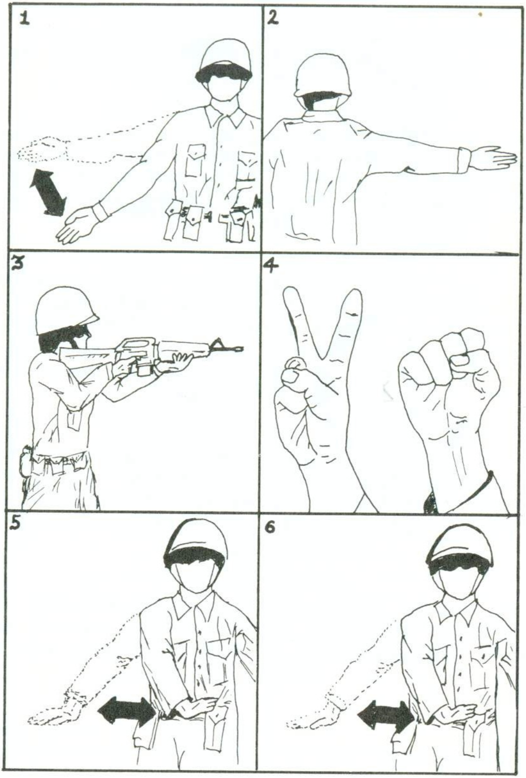


Figure 23.--Arm-and-Hand Signals (con.).

7.

FIRE SLOWER

Execute slowly the signal COMMENCE FIRING. For machineguns, a change to the next lower rate of fire is required.

8.

CEASE FIRING

Raise the hand in front of the forehead, palm to the front, and swing the hand and forearm up and down several times in front of the face.

9.

ASSEMBLE

Raise the hand vertically to the full extent of the arm, fingers extended and joined, palm to the front, and wave in large horizontal circles with the arm and hand.

10.

FORM COLUMN

Raise either arm to the vertical position. Drop the arm to the rear, describing complete circles in a vertical plane parallel to the body. The signal may be used to indicate either a troop or vehicular column.

11.

ARE YOU READY?

Extend the arm toward the leader for whom the signal is intended, hand raised, fingers extended and joined, then raise arm slightly above horizontal, palm facing outward.

12.

I AM READY

Execute the signal ARE YOU READY.

Figure 23.--Arm-and-Hand Signals (con.).

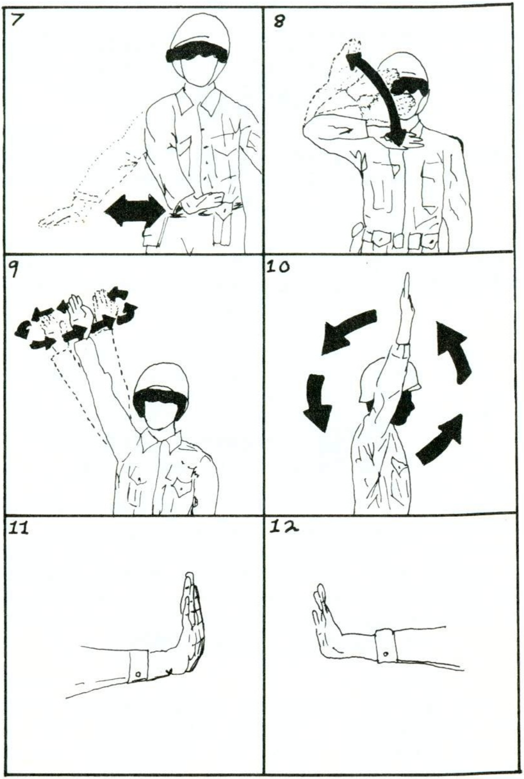


Figure 23.--Arm-and-Hand Signals (con.).

13. SHIFT

Raise the hand that is on the side toward the new direction across the body, palm to the front; then swing the arm in a horizontal arc, extending arm and hand to point in the new direction.

14. ECHELON RIGHT (LEFT)

Face the unit(s) being signaled and extend one arm 45° above and the other arm 45° below the horizontal, palms to the front. The lower arm indicates the direction of echelon. Supplementary commands may be given to ensure prompt and proper execution.

15. AS SKIRMISHERS (FIRE TEAM); LINE FORMATION (SQUAD)

Raise both arms laterally until horizontal, arms and hands extended, palms down. If it is necessary to indicate a direction, move in the desired direction at the same time.

16. WEDGE

Extend both arms downward and to the side at an angle of 45° below the horizontal, palms to the front.

17. VEE

Extend arms at an angle of 45° above the horizontal forming the letter "V" with arms and torso.

18. FIRE TEAM

The right arm should be placed diagonally across the chest.

Figure 23.--Arm-and-Hand Signals (con.).

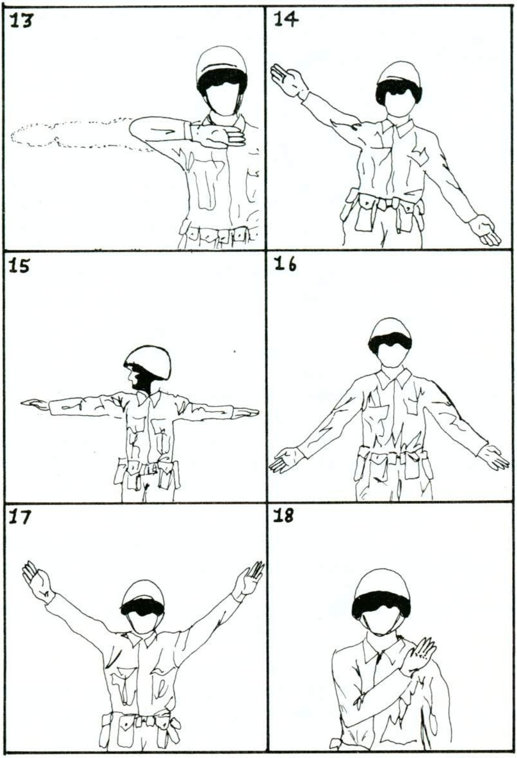


Figure 23.--Arm-and-Hand Signals (con.).

19. SQUAD

Extend the hand and arm toward the squad leader, palm of the hand down; distinctly move the hand up and down several times from the wrist, holding the arm steady.

20. PLATOON

Extend both arms forward, palms of the hands down, toward the leader(s) or unit(s) for whom the signal is intended and describe large vertical circles with hands.

21. CLOSE UP

Start signal with both arms extended sideward, palms forward, and bring palms together in front of the body momentarily. When repetition of this signal is necessary, the arms are returned to the starting position by movement along the front of the body.

22. OPEN UP; EXTEND

Start signal with arms extended in front of the body, palms together, and bring arms to the horizontal position at the sides, palms forward. When repetition of this signal is necessary, the arms are returned along the front of the body to the starting position and the signal is repeated until understood.

23. DISPERSE

Extend either arm vertically overhead; wave the hand and arm to the front, left, right, and rear, the palm toward the direction of each movement.

Figure 23.--Arm-and-Hand Signals (con.).

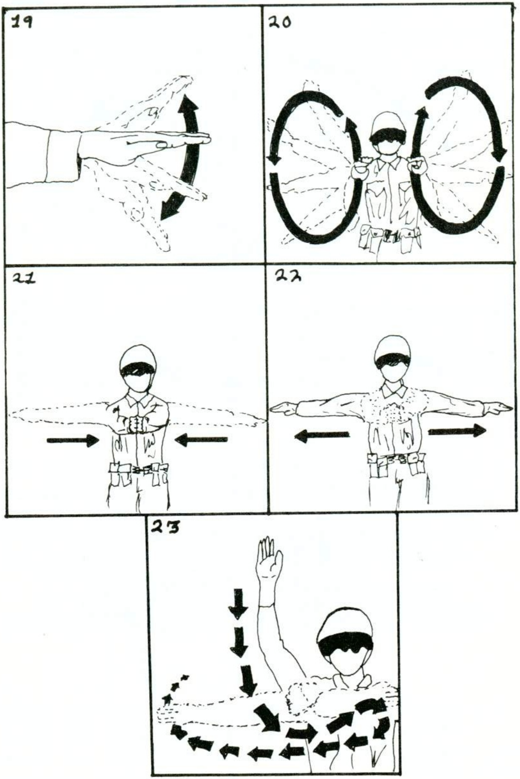


Figure 23.--Arm-and-Hand Signals (con.).

24. I DO NOT UNDERSTAND

Face toward source of signal; raise both arms sidewards to the horizontal at hip level, bend both arms at elbows, palms up, and shrug shoulders in the manner of the universal "I dunno."

25. FORWARD; ADVANCE; TO THE RIGHT (LEFT); TO THE REAR (USED WHEN STARTING FROM A HALT)

Face and move in the desired direction of march; at the same time extend the arm horizontally to the rear; then swing it overhead and forward in the direction of movement until it is horizontal, palm down.

26. HALT

Carry the hand to the shoulder, palm to the front; then thrust the hand upward vertically to the full extent of the arm and hold it in that position until the signal is understood.

27. FREEZE

Make the signal for "Halt" and make a fist with the hand.

28. DOWN; TAKE COVER

Extend arm sideward at an angle of 45° above horizontal, palm down, and lower it to side. Both arms may be used in giving this signal. Repeat until understood.

Figure 23.--Arm-and-Hand Signals (con.).

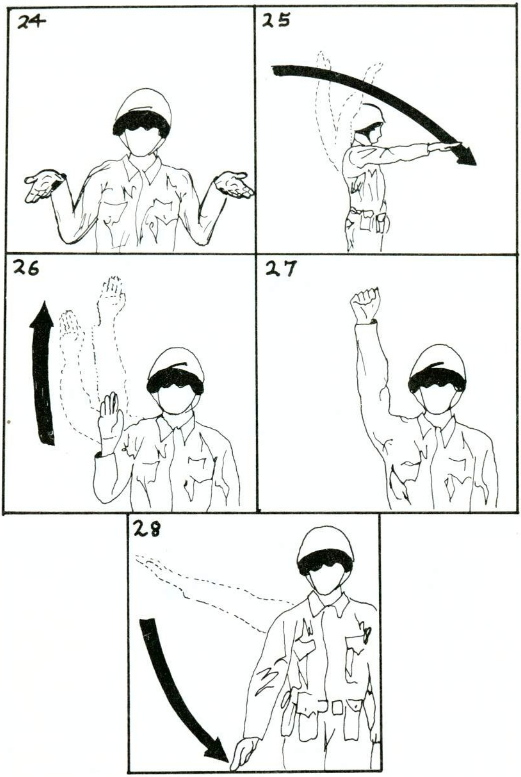


Figure 23.--Arm-and-Hand Signals (con.).

29. INCREASE SPEED; DOUBLE TIME
Carry the hand to the shoulder, fist closed; rapidly thrust the fist upward vertically to the full extent of the arm and back to the shoulder several times. This signal is also used to increase gait or speed.

30. HASTY AMBUSH RIGHT (LEFT)
Raise fist to shoulder level and thrust it several times in the desired direction.

31. RALLY POINT
Touch the belt buckle with one hand and then point to the ground.

32. OBJECTIVE RALLY POINT
Touch the belt buckle with one hand, point to the ground, and make a circular motion with the hand.

Figure 23.--Arm-and-Hand Signals (con.).

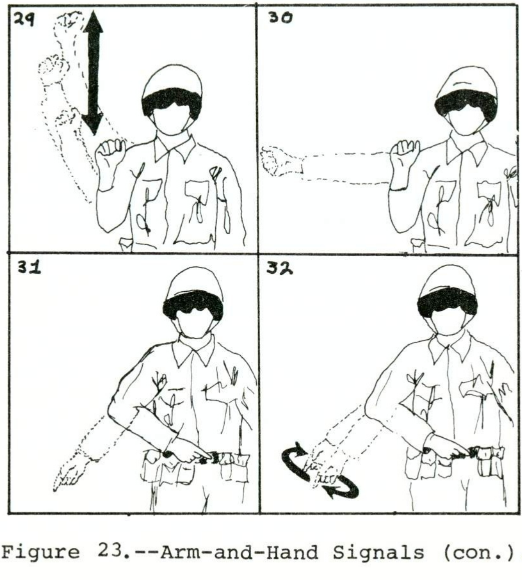


Figure 23.--Arm-and-Hand Signals (con.).

CHAPTER 4

AMPHIBIOUS OPERATIONS

Section I. PREPARATION AND MOVEMENT TO OPERATION

4101. INTRODUCTION

The purpose of an amphibious operation is to launch an attack from the sea on a hostile shore. The squad is required to attain a high rate of proficiency in its techniques and procedures.

4102. PREEMBARKATION

Preembarkation encompasses those functions that must be performed to prepare the squad for an amphibious operation. The following guidelines are to be used by the squad leader in preparation for embarking aboard ship:

a. Supervise individual and unit training.

b. Ensure fire team leaders are proficient in fire team and squad tactics.

c. Conduct critiques of squad training and initiate corrective action.

d. Conduct inspections of weapons, clothing, and equipment to ensure readiness for embarkation and the operation.

e. Supervise the marking/tagging of weapons, equipment, and baggage for embarkation.

f. Assemble squad in proper uniform at designated time for embarkation.

4103. DUTIES ABOARD SHIP

The squad leader performs the following duties while the ship is underway:

a. Assigns fire team berthing areas and supervises the stowage of gear.

b. Ensures squad attends all briefings and periods of instruction.

c. Ensures squad area is in good state of police.

d. Enforces applicable ships' regulations.

e. Assists in conducting and supervising physical conditioning and military subject training.

f. Directs and supervises care and cleaning of weapons.

g. Supervises security of individual weapons.

h. Ensures correct conduct and appearance of squad.

i. Conducts operational planning.

- (1) Briefs squad on:
  - (a) Platoon mission.
  - (b) Scheduled rehearsals.
  - (c) Debarkation procedure.
  - (d) Ship-to-shore movement.
- (2) Makes a detailed study of:
  - (a) Maps.
  - (b) Aerial photographs.
  - (c) Mockups and sketches.
- (3) Makes a preliminary estimate of the situation.
- (4) Formulates tentative plan of attack.
- (5) Submits tentative plan of attack to platoon commander.
- (6) Completes tentative plan.

j. Issues the order and ensures thorough understanding by all members of the squad.

k. Additional duties may be prescribed for the squad leader and members of his squad. (See FMFM 4-2, Amphibious Embarkation.)

4104. DEBARKATION

a. General.--Debarkation is characterized by rapid and effective unloading of men and material in the shortest possible time.

b. Organization of a Boat Team.--A boat team includes the personnel, equipment, and supplies assigned to one landing craft or amphibious vehicle. They are normally organized as follows:

- (1) Landing Craft
  - (a) Boat team commander.

(b) Assistant boat team commander.

(c) Four net handlers.

(d) Boat paddle handler.

(e) Eight loaders (four deck loaders and four boat loaders).

(f) Remaining troops and equipment.

(2) Amphibious Vehicle

(a) Boat team commander.

(b) Assistant boat team commander.

(c) Boat paddle handler.

(d) Remaining troops and equipment.

c. Duties of Boat Team Personnel

(1) Boat Team Commander.--The senior commissioned or noncommissioned troop officer of the boat team is designated the boat team commander. He has the following responsibilities:

(a) Appointing the assistant boat team commander, loaders, net handlers, and boat sign handler.

(b) Assigning personnel and equipment to positions in the landing craft (vehicle).

(c) Reconnoitering routes from assigned troop assembly area to debarkation station or assigned amphibious vehicle.

(d) Mustering boat teams in assembly area at the required time.

(e) Inspecting each man for uniform, equipment, and adjustment of equipment while in the assembly area.

(f) Ensuring that lashing lines

are present for each piece of equipment that is to be lowered into the landing craft and that all such equipment is properly lashed.

(g) Forming his boat team at the debarkation station (not applicable to amphibious vehicles).

(h) Supervising the debarkation of personnel and the lowering of equipment during debarkation (not applicable to amphibious vehicles).

(i) Maintaining boat team discipline during the ship-to-shore movement. The boat team commander has no control over the coxswain or boat crew during the ship-to-shore movement.

(j) Debarking boat team personnel and equipment from the landing craft (vehicle) at the beach.

(2) Assistant Boat Team Commander. --The second senior commissioned or noncommissioned troop officer present normally is assigned duty as assistant boat team commander. His duty is to assist the boat team commander in carrying out duties outlined in paragraph (1), above.

(3) Loaders.--Eight members of the boat team are designated as loaders. The loaders lower, guide, and stow all equipment which cannot be carried down the debarkation net. Four men are designated deck loaders and lower gear with lowering lines from the ship's deck to the boat. Four boat loaders in the boat guide the equipment away from the side of the ship with guidelines, receive it, and stow it in the boat.

(4) Net Handlers.--Four men are normally assigned duty as net handlers, but additional net handlers may be assigned,

depending on the condition of the sea in the objective area. The net handlers are the first group to go down the net and relieve the boat crew of holding the debarkation net taut and away from the side of the landing craft.

(5) Boat Paddle Handler.--One member of the boat team is responsible for the boat paddle. The boat paddle serves to identify the boat team and aids the wave commander in forming a wave in proper order in the rendezvous area. The handler lashes it and carries it from the troop assembly area to the debarkation station where it is lowered as prescribed for other equipment. When directed by the boat team commander, the handler places the paddle in the boat paddle bracket on the starboard side forward. He removes the paddle after the line of departure is crossed, carries it ashore, and drops it on the beach above the high water mark.

d. Individual Equipment Preparations.--Equipment, except for body armor, is rigged so that it may be quickly dropped from the shoulders and discarded in the event that the individual falls into deep water while debarking from the ship. Equipment is rigged on the individual in the boat team assembly area as follows:

(1) Protective mask is slung over the right shoulder (not around the neck), riding on the right hip with the body strap unfastened and wrapped around the cartridge belt.

(2) Canteen well back on the left hip. If two canteens are worn, one is carried on each hip.

(3) This procedure can be performed

at the debarkation station. The shoulder weapon is slung on the right shoulder with the muzzle up, sling loosened and to the front. The weapon is carried across the pack with the sling around the pack, bringing the weapon to a vertical position behind the left shoulder. The sling is secured in this position. The weapon should fit snugly. Men pair off to adjust weapons; one man placing the weapon on the other's pack, the other reaching down with his left hand grasping the butt of his weapon to test it for snugness and to hold it in position in order that proper sling adjustment may be made. The sling will be fastened after the weapon has been properly adjusted.

(4) The lanyard of the pistol is placed over the right shoulder (not around the neck) and fastened securely to the pistol.

(5) Cartridge or pistol belt unfastened and left hanging from the belt suspender straps on the pack.

(6) Helmet chin strap is loose but fastened.

(7) Body armor is unzipped, snaps fastened.

(8) Life jacket:

(a) Cork or Kapok.--This life jacket is put on after all other individual equipment is adjusted. The jacket is placed around the man's neck; crotch and waist straps are brought under the individual equipment, over the body armor, care being taken not to entangle the straps with any other equipment; crotch and waist straps are drawn tight; the tie-tie straps are tied.

(b) Pneumatic Type.--This type of life jacket is put on over the body armor before other individual equipment is put on.

The back, body, and crotch straps are fastened, leaving sufficient looseness to allow for inflation.

(9) All equipment, except for life jacket and body armor is adjusted so that it can be dropped quickly from the shoulders.

(10) Gloves are removed.

e. Movement From Assembly Area to Debarkation Station.--The boat team commander leads his boat team in single file to its assigned debarkation station.

f. Procedure for Debarkation From Transports.--Men and equipment should be debarked as quickly as possible when their assigned boats come alongside. The boat team commander is in charge of the debarkation of his team. He orders men over the side in ranks of four men. Nets are used to full capacity; the men in each rank keep abreast of each other by glancing to the right and left, allowing the slowest men to set the pace.

g. Lashing and Lowering the Equipment. --Each piece of equipment to be lowered (machinegun, rocket launcher, etc.) is lashed with a line prior to its arrival at the debarkation station. The lash line should be of sufficient strength to hold 300 pounds (not less than 1/2 inch in diameter) and have a 4-inch eye splice at each end. Lowering lines and guidelines furnished by the ship will be at each debarkation station. The guideline is hooked in the eye of the lashing line at the heavy end of the equipment and the lowering line is hooked at the light end. In lowering, the guideline is kept taut, keeping the equipment away from the side of the ship and guiding it into the landing craft.

h. LVT Boat Team.--Organization and composition of the LVT boat team is given in subparagraph 4104b(2). Preparation for debarkation, as given in subparagraphs 4104c and 4104d, applies to LVT's with the exception that unit equipment is preloaded and properly stowed in the LVT and shoulder weapons are slung normally or carried in the hand.

4105. MOVEMENT FROM SHIP-TO-SHORE

a. Duties Aboard Landing Craft.--When the landing craft departs the ship for designated positions in the landing area, the boat team commander performs the following:

(1) Checks to see that men and equipment are in assigned boat spaces.
(2) Positions the boat paddle on the starboard side forward.
(3) When the line of departure is crossed, removes boat paddle, orders protective covers removed from weapons and equipment, unlashes equipment, fastens all cartridge belts and chin straps, and locks and loads weapons.
(4) Conducts a visual reconnaissance of the beach from the landing craft, observing enemy installations, beach condition, and objective.

b. Duties Aboard LVT's.--Duties aboard an LVT are the same as those listed in subparagraph 4105a.

c. Debarkation From Landing Craft.--

Personnel debark on order when the landing craft beaches. The right column moves down the starboard side of the ramp, steps off the right side, and deploys to the right front. The left column moves down the port side of the ramp, steps off the left side, and deploys to the left front. The center column alternates, half debarking over the starboard and half over the port side of the ramp.

d. Debarkation From LVT's.--Squads debark as a unit to maintain tactical unity. When units reach a good covered position and are at least 35 meters from the LVT, life preservers are removed.

e. Emergency Abandonment From Landing Craft and LVT's

(1) Landing Craft.--If a landing craft is in danger of sinking, combat equipment is discarded by the individual. Leaders must set the example and maintain control of members of the boat team. When the landing craft has sunk beneath the boat team, personnel stay together and swim toward the nearest refuge. If the boat is afire, members of the boat team, on order, debark over the side quickly.

(2) LVT.--The primary principle in escape operations from amphibious vehicles is strict attention to the orders of the vehicle crew chief and maintenance of discipline among the boat team.

(a) Debarkation From a Sinking LVT.--On order of the vehicle crew chief, the boat team will jettison equipment, move topside, inflate life jackets, and abandon the vehicle.

(b) Debarkation From a Sunken LVT.--In the event of rapid sinking, it may not be possible to evacuate personnel before the vehicle slips under the surface of the water. Some air will be trapped within the personnel and cargo compartment of the sunken LVT, and will serve as a pocket of air when the vehicle has settled. This pocket of air should be sought by all personnel aboard until internal and external pressures have equalized, that is, when the water level in the troop compartment has risen to a level equal to the top of the escape hatch. When equalization has taken place, the amphibious vehicle crew members will remove the spring-loaded escape hatches on either side of the vehicle. No attempt should be made to release hatches until they are totally submerged. Boat team personnel are then led to the escape hatches by crew members. Life preservers of the inflatable type will not be inflated until the escape hatch has been cleared. Personnel wearing kapok life jackets remove and hand carry them through the hatch for use as a temporary floating device upon reaching the surface.

4106. AMPHIBIOUS ASSAULT

a. Action Upon Landing.--The first priority for the assault wave is the destruction of the enemy on the beach. Each squad is assigned a specific objective. The squad seizes its objective as rapidly and aggressively as possible, regardless of the progress of other elements of the platoon. Whether attacking a beach objective or pressing inland, the action of the squad must be rapid and decisive. Prompt followup of the preliminary bombardment will give the best results. Installation and terrain features may often be seized quickly by immediate attack, whereas a delay may require a later and more difficult attack.

b. Support Units.--Machinegun, rocket launcher, and flame weapon elements are normally boated with the assault rifle squads to form the boat team of the leading wave. These personnel are assigned definite objectives against which they will deliver supporting fire. The squad leader must know how to employ these weapons, and the entire squad must be trained to operate with them.

CHAPTER 5

HELICOPTERBORNE OPERATIONS

Section I. GENERAL

5101. INTRODUCTION

The helicopter provides increased battlefield mobility for ground units. Squad and fire team leaders must be familiar with basic information concerning its principles and techniques. See FMFM 3-3, Helicopterborne Operations, for detailed information concerning helicopterborne operations.

5102. CONCEPT OF EMPLOYMENT

Marine helicopter and ground units are organized and equipped to conduct an attack by vertical envelopment. Helicopterborne forces are employed to seize key terrain; to isolate pockets of resistance; and to conduct diversionary actions, raids, combat patrols, deep reconnaissance, observation and surveillance, and operations against guerrillas.

5103. BASIC DEFINITIONS

a. Helicopter Team.--A helicopter team, referred to as heliteam, consists of combat equipped troops lifted in one helicopter at one time. In forming heliteams, tactical integrity is preserved whenever possible. The size of the heliteam is determined by the weight carrying capacity of the helicopter and the weight of the troops and equipment to be transported.

For planning purposes, the weight of a combat-loaded Marine is 240 pounds. The senior man in the heliteam is designated the heliteam commander and is placed in charge.

b. Helicopter Wave.--A helicopter wave consists of the helicopters which arrive together and land at approximately the same time in the same landing zone. Normally, a rifle platoon is the smallest tactical unit transported in a single wave.

c. Landing Zone.--A landing zone is a specified ground area for landing assault

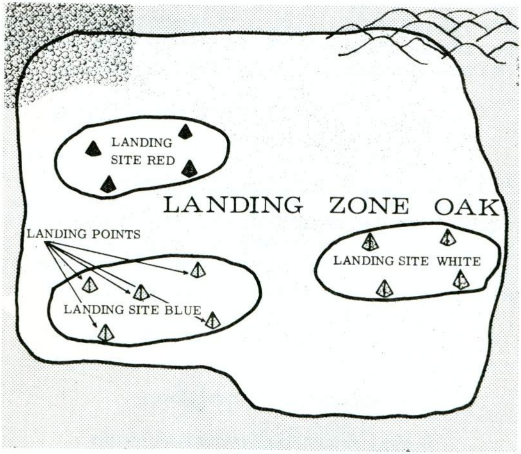


Figure 24.--A Helicopter Landing Zone.

helicopters to embark or disembark troops and/or cargo. A landing zone is designated by a code name. It may include one or more landing sites. (See fig. 24.)

d. Landing Site.--A landing site is a designated subdivision of a helicopter landing zone in which a single flight or wave of assault helicopters land to embark or disembark troops and/or cargo. Landing sites are designated by a color, such as "landing site orange."

e. Landing Point.--A landing point is a point where one helicopter can land. Landing points are designated by two-digit numbers, such as "landing point 12." (See fig. 24.)

Section II. HELICOPTERBORNE TRAINING

5201. GENERAL

The objective of helicopterborne training is to familarize personnel with its techniques and ensure that helicopterborne operations are conducted with maximum speed, flexibility, and timeliness.

a. Heliteam Organization.--Heliteams are organized as follows:

(1) Heliteam commander.
(2) Assistant heliteam commander.
(3) Remaining members of the heliteam and their equipment.

b. Heliteam Commander Responsibility.--The senior commissioned or noncommissioned troop officer of the heliteam is the heliteam commander. His responsibilities are as follows:

(1) Inspect each individual for proper uniform, equipment, and proper adjustment of equipment while in the assembly area.
(2) Muster the heliteam in the assigned assembly area prior to enplaning.
(3) Ensure that equipment assigned the heliteam is properly located before the team is called to the loading zone.
(4) Lead his heliteam from the assembly area to the control point and ready circle in the loading zone.
(5) Supervise enplaning of his heliteam.
(6) Supervise deplaning of heliteam

personnel and equipment at the landing site.

c. Assistant Heliteam Commander Responsibility.--The second senior commissioned or noncommissioned troop officer is the assistant heliteam commander. He assists the heliteam commander. He becomes thoroughly familiar with all duties of the heliteam commander and assumes command when necessary.

d. Loading Procedure.--Within the loading site, troops will be assembled into an assembly area. Here orders are issued and administrative matters are completed. Troops are assembled into heliteams and briefed. When directed, the heliteams are moved to the control point and from the control point the loading supervisor directs them to the ready circles. The ready circles are alert points from which the heliteams are called to be enplaned. (See fig. 25.)

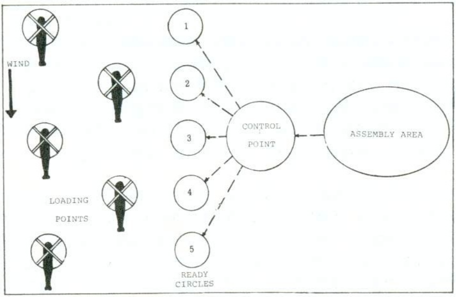


Figure 25.--Land Loading Procedure.

e. Enplaning.--Helicopter loading is conducted with the maximum speed commensurate with safety. Specific procedures for enplanement by type of aircraft and according to the situation will be prescribed in local SOP's. To assist in enplanement drills, the following procedures may be used as guides:

(1) On signal from the troop loading officer at the loading site control point or the troop loading assistant in the ready circle, the heliteam approaches the aircraft on the double with the heliteam commander leading and the assistant heliteam commander bringing up the rear.

(2) The heliteam commander ensures that team members are in proper sequence within the column to facilitate rapid enplanement and loading of equipment.

(3) Upon reaching the entrance to the helicopter, the heliteam commander takes a position outside, slings his rifle, and assists team members to enplane.

(4) Personnel enter the helicopter carrying rifles in their hands.

(5) The passenger manifest is passed from the heliteam commander to the troop loading assistant or flight deck guide. See FMFM 6-4, Marine Rifle Company/Platoon, for details concerning the format of the passenger manifest.

(6) When seated, each Marine places his rifle between his knees, fastens his safety belt, and raises his right arm to signal the heliteam commander that he is ready for takeoff.

(7) When the heliteam is strapped in and ready to become airborne, the heliteam commander gives the crew chief a ready signal

which has previously been agreed upon by the lifted troop unit and the helicopter unit. Some aircraft have been modified to provide voice radio communications between the pilot and the heliteam commander.

(8) Crew-served weapons are loaded as follows:

(a) The light machinegun is loaded in three main loads: the gun group, the tripod, and the spare barrel case. All three are carried and loaded by individual members. The individual loads are stowed between the knees in the same fashion as rifles.

(b) The 3.5-inch rocket launcher is placed under the seats immediately inside and to the rear of the cargo door.

(c) The 81mm mortar is loaded in two component loads; the complete base plate as one load and the tube and bipod assembly as the other. The base plate is loaded first and placed under the portside seats. The tube and bipod assembly is placed under the seats immediately inside and to the rear of the cargo door.

f. Enplanement Aboard Ship.--The basic enplanements aboard ship are the same as those ashore. The organization and physical appearance of amphibious assault ships differ according to the ship's class, but general heliteam loading procedures remain the same.

g. Deplanement.--When approaching the landing zone, but shortly before touchdown, the pilot or crew chief will orient the heliteam leader with relation to direction. Besides identifying north, south, east, and west, he must establish for the leader his position in relation to an object that is well known to him on the ground. When the helicopter has landed, the pilot or the crew chief will give the signal to debark. Personnel will unfasten safety belts and unload cautiously but rapidly. This is necessary to ensure that helicopters are not exposed for a long period in the landing zone.

Section III. SIGNALS

5301. ARM-AND-HAND SIGNALS

All personnel should be familiar with arm-and-hand signals that will assist in guiding helicopter pilots. Familiarity with the following arm-and-hand signals will normally be adequate. (See fig. 26.)

1. TO PREPARE FOR GUIDANCE OF HELICOPTER
Extend arms above the head, palms facing inboard.

2. TO DIRECT THE HELICOPTER FORWARD
Extend the arms and hands above the head, palms facing away from the helicopter. Move the hands in such a motion as to simulate a pulling motion.

3. TO DIRECT THE HELICOPTER BACKWARD
Extend the arms and hands above the head, palms facing the helicopter. Move the hands to simulate a pushing motion.

4. TO DIRECT THE HELICOPTER TO EITHER SIDE
Extend one arm horizontally sideways in direction of movement and swing other arm over the head in the same direction.

5. TO DIRECT THE HELICOPTER TO LAND
Cross and extend arms downwards in front of the body.

6. TO DIRECT THE HELICOPTER TO TAKE OFF
Circular motion of right hand overhead, ending in a throwing motion toward the direction of takeoff.

Figure 26.--Arm-and-Hand Signals.

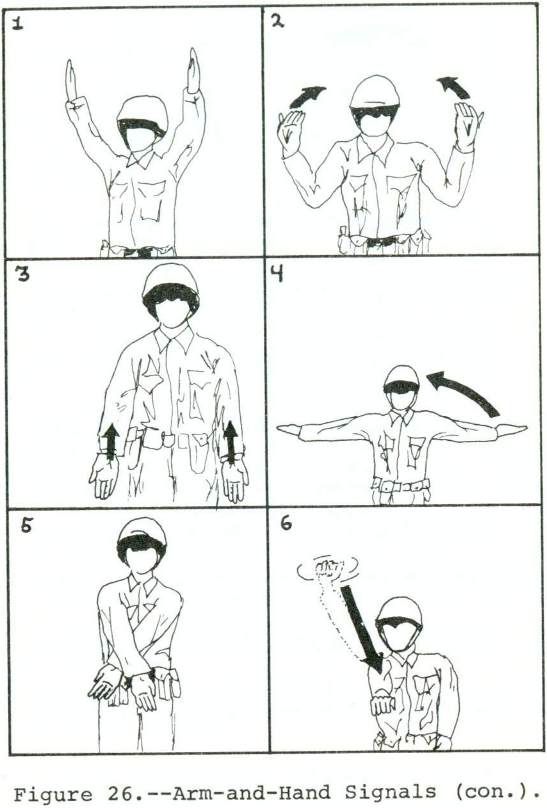


Figure 26.--Arm-and-Hand Signals (con.).

7. TO DIRECT THE HELICOPTER TO HOVER

Extend arms horizontally sideways, palms downward.

8. TO DIRECT THE HELICOPTER TO WAVE OFF

Arms rapidly waved and crossed over the head.

9. TO DIRECT THE HELICOPTER TO HOOK UP EXTERNAL LOAD

Place right fist in front of body and left fist over right fist in a "rope climbing" action.

10. TO DIRECT THE HELICOPTER TO RELEASE EXTERNAL LOAD

Left arm extended forward horizontally, fist clenched, right hand making horizontal sliding motion below the left fist, palm downward.

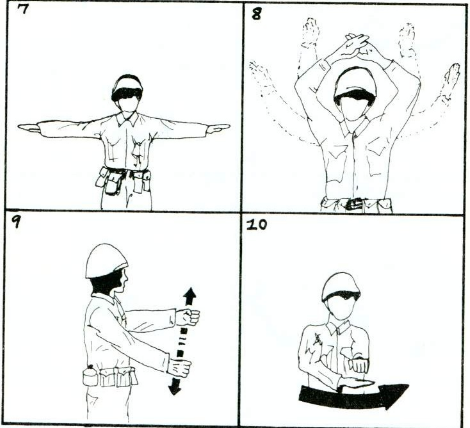


Figure 26.--Arm-and-Hand Signals (con.).

Section IV. CONDUCT OF THE ASSAULT

5401. PLANNING

The principles of offensive combat are the same for the employment of helicopterborne forces as for normal land combat. The squad leader prepares for the vertical assault by carrying out the following duties:

a. Makes a preliminary estimate of the situation.

b. Conducts map and aerial photograph reconnaissance.

c. Coordinates with adjacent squad leaders.

d. Formulates tentative plan of attack to include:

(1) Heliteam organization.
(2) Scheme of maneuver.
  (a) Clearing squad sector of landing site.
  (b) Seizure of objectives.
(3) Fire support.

e. Submits tentative plan of attack to platoon commander.

f. Briefs the members of the squad on the platoon mission.

g. Completes the plan, issues the order, and supervises.

5402. INITIAL GROUND ACTION

a. Initial Assault.--The initial assault involves seizing and establishing landing sites. Each squad of the first wave will be assigned a sector of responsibility of all or part of the landing site. Upon deplaning, the squad will destroy enemy elements located in their sector.

b. Seizure of the Landing Site.--When the desired area is seized, the squad sets up a hasty defense to ensure initial landing zone security. Concurrent with operations, the squad leader accomplishes reorganization and control. Contact with friendly units is established as rapidly as possible.

c. Followup.--Units landed in succeeding waves are employed as necessary to ensure seizure of the landing zone. If not required, they prepare for further offensive action to accomplish assigned missions.

CHAPTER 6

OFFENSIVE COMBAT

Section I. GENERAL

6101. PURPOSE

The purpose of offensive combat is to destroy the enemy and his will to fight.

6102. PHASES OF THE ATTACK

The offensive mission of the squad is to attack. The attack is divided into three phases: the preparatory phase, the conduct phase, and the consolidation and reorganization phase. Each phase is further subdivided according to the mission and/or unit involved. In planning and execution, all phases are normally considered. However, steps within a phase are often shortened, omitted, or repeated. Phases and corresponding steps pertinent to the squad are as follows:

a. Preparatory Phase

(1) Movement to contact.
(2) Final preparations in the assembly area.

b. Conduct Phase

(1) Movement to the line of departure.
(2) Movement forward of the line of departure to the final coordination line.

(3) Movement from the final coordination line through the objective.

c. Consolidation and Reorganization

(1) Consolidation.
(2) Reorganization.

Section II. PREPARATORY PHASE

6201. GENERAL

The squad prepares for the attack by executing the movement to contact and making final preparations.

6202. MOVEMENT TO CONTACT

Movement to contact is a tactical movement to gain or reestablish contact with the enemy. It ends when the unit is forced to open fire upon the enemy in order to advance or when the unit goes into an assembly area to prepare for combat. The route column, tactical column, and approach march are troop formations peculiar to movement to contact. Explanation of each follows:

a. Route Column.--When probability of contact with the enemy is remote, the movement is made in route column. Units within the column are administratively grouped for ease of control and speed of movement.

b. Tactical Column.--The tactical column will be employed for greater security when the enemy situation has changed from contact remote to contact improbable. The rifle squad may be used as:

(1) Part of the Main Body.--When the squad marches as part of the main body, the squad leader's primary duties involve the supervision of march discipline within his squad.

(2) Connecting Elements

(a) General.--Connecting elements are files or groups which are used to maintain contact between the units of the command. Connecting files are individuals who are sent out to maintain contact between units. A connecting group consists of one or more fire teams. They may be classified as either flank or column connecting files or groups, depending upon their mission. (See fig. 27.) The use of connecting files or groups is governed primarily by visibility.

(b) Flank Connecting Files or Groups.--Connecting files or groups that maintain contact with units, guards, or patrols on the flanks are called flank connecting files or groups. The primary mission is to report the location and situation of the unit with which the file or group is maintaining contact. It may also cover any gaps which exist between the units, giving warning of and resisting any hostile penetration.

(c) Column Connecting Files or Groups.--Individuals or fire teams used to maintain visual contact between elements in the tactical column are called column connecting files or groups. Contact between the point and the advance party is provided by either connecting files or a connecting group consisting of one fire team. Between larger units of the advance guard, main body, and rear guard, a connecting group may consist of two fire teams or a squad.

(3) Point of Advance Guard

(a) The point precedes the advance party along the axis of advance. The distance between the point and advance party is prescribed by the commander of the advance party. Its mission is to prevent an enemy in

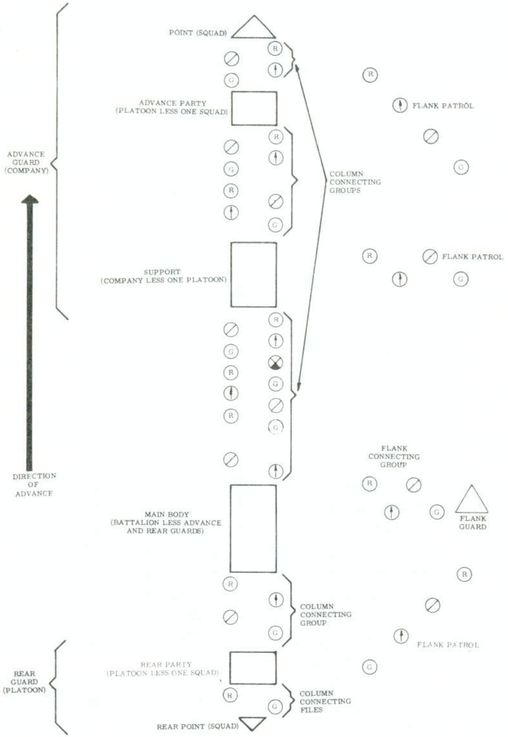


Figure 27.--Security Missions in the Tactical Column and the Approach March Formations.

the immediate vicinity of the route of march from surprising the troops following, and to prevent any undue delay of the column. Possible ambush sites such as stream crossings, road junctions, small villages, and defiles are thoroughly probed by the point.

(b) Formations for the point are prescribed by the squad leader. Generally, the squad uses a wedge formation for all-round protection and ease of deployment. Fire teams within the point usually adopt the wedge or open column formation. (See fig. 28.) The squad leader assigns each fire team a sector of observation and the fire team leaders assign each individual a sector of observation. (See

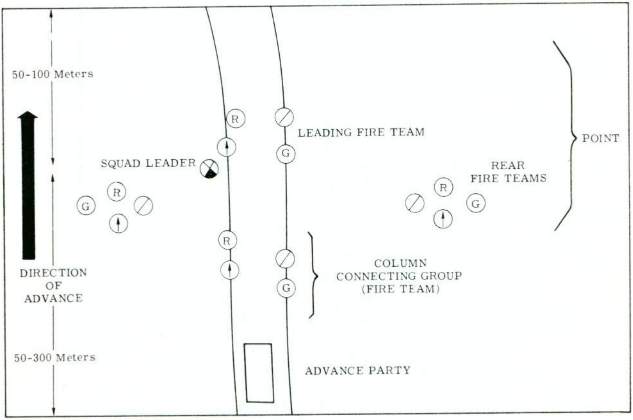


Figure 28.--Point in Wedge Formation.

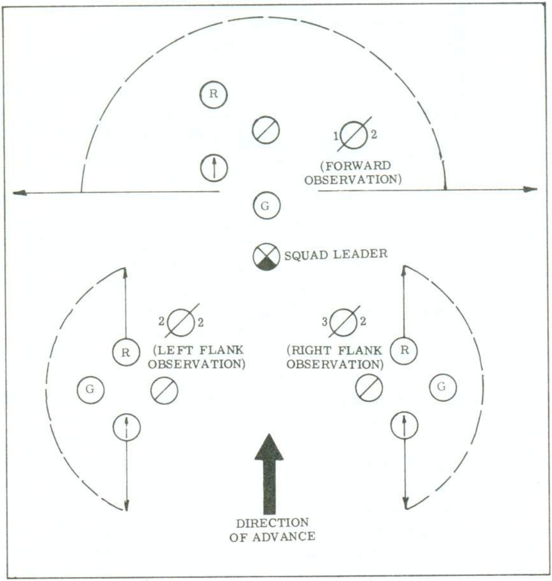


Figure 29.--Fire Team Sectors of Observation.

fig. 29.) This ensures the all-round observation essential for the proper security of the point.

(c) The squad leader of the point generally places himself just to the rear of the leading fire team. From this position, he can most effectively control his squad. Whenever possible, he uses arm-and-hand signals for communications.

(d) The point engages all enemy elements within effective range. The squad leader reports contacts to the advance party commander and informs him of the enemy situation and the action he is taking. If the enemy resistance is weak in comparison to the strength of the point, the squad leader initiates a plan to close immediately with the enemy and destroy him. If the enemy resistance is greater than the strength of the point, the squad attacks in a manner that forces the enemy to open fire and disclose his disposition and strength.

(4) Rear Point.--In the same manner that the advance party dispatches a point forward, the rear party employs a point to cover its rear. The formation of the squad serving as a rear point is similar to that of the point of the advance guard, but in reverse order. The squad generally uses a vee or a column formation, the squad leader positioning himself at the head of the rearmost fire team. (See fig. 30.) The rear point stops to fire only when enemy action threatens to interfere with the march.

(5) Point of Flank Guard.--The missions, actions, and formations of a squad when serving as the point of a flank guard are the same as when the squad is acting as the point of an advance guard.

(6) Flank Patrol

(a) Rifle squads are often detailed as flank security patrols. A flank patrol may be ordered to move to and occupy an important terrain feature on the flank of

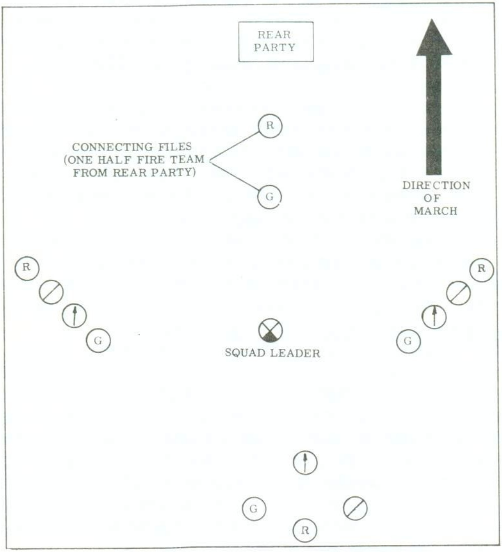


Figure 30.--The Squad as Rear Point.

the advance, or to move parallel to the column at a prescribed distance from it, the distance depending on the speed of the column and the terrain. When vehicles or helicopters are available, it is highly desirable to provide the patrol with transportation.

(b) When moving on foot, parallel to the column, the patrol adopts formations based upon considerations of terrain, speed, and self-protection. In open terrain, a squad wedge formation is usually the best. In heavily wooded terrain, the patrol might use the squad column. The leading fire team serves as the scouting element of the patrol.

(c) The patrol moves so as to prevent the enemy from placing effective small arms fire on the column. It investigates areas likely to conceal enemy elements or provide them good observation. The patrol moves rapidly from point to point, keeping between the protected unit and possible enemy locations.

(d) Enemy patrols moving away from the main body are reported, but are not fired upon. All other hostile forces within effective range are engaged immediately by the patrol. If the enemy opens fire on either the patrol or the column, the patrol determines the strength and dispositions and reports this information promptly to the unit or column commander.

(7) Security for the Halted Column

(a) Security is established for a halted column by the advance, flank, and rear guards. They occupy terrain features controlling the approaches to the halted column. Special attention is given to the flanks.

(b) The squad leader positions his fire teams where they can observe and defend all avenues of approach leading into the squad area of responsibility. He ensures alert observation by detailing observers in pairs and arranging for frequent reliefs.

c. Approach March.--The approach march formation is the continuation of the movement when enemy contact is imminent. It is executed with troops fully or partially deployed.

Advance is by bounds, stopping on easily recognizable terrain features to coordinate the advance.

(1) Initial Formation.--Upon assuming an approach march formation, the platoon commander usually prescribes initial squad formations. As the march progresses, however, the squad leaders order formation changes in accordance with the terrain, the frontages assigned, and the likelihood of enemy contact.

(2) Base Squad.--A base squad may be designated by the platoon commander to assist in maintaining direction, position, and rate of march. Other squads will guide on the base squad.

(3) Duties of the Squad Leader.--The squad leader regulates his squad's advance on the base squad, or if his squad is the base squad, he advances it as directed by the platoon commander. As he moves, he studies the ground to the front in order to take advantage of cover and concealment and to control the movement of his fire teams. He also maintains direction and makes minor detours to take advantage of better terrain.

(4) Scouting Fire Teams

(a) When a rifle platoon in the approach march is not preceded by friendly troops, it uses its own scouting elements. These scouting elements are usually one or two fire teams; however, an entire squad may be used. Fire teams used as scouting elements are called scouting or leading fire teams and are controlled by the platoon commander, assisted by the squad leader. Scouting fire teams move aggressively to cover the front of the advancing platoon and to force the enemy to disclose his positions.

(b) When a scouting fire team is directed to advance over open ground to an edge of woods, two members of the team, preferably the riflemen, reconnoiter inside the woodline, while the other men of the fire team cover them. When it is determined that the area near the woods is clear, the remainder of the platoon moves up. The scouting fire teams hold a line within the woods until given further instructions.

(c) When a scouting fire team is fired upon, the individuals immediately take cover. Targets are located and fire returned. The scouting fire team leader then determines:

1 Location of enemy (range and reference points).

2 Extent of position (location of flanks).

3 Types of positions (foxholes, bunkers, etc.).

4 Number of enemy.

5 Enemy weapons (mortars, tanks, etc.).

6 Nature of terrain.

(d) The platoon commander contacts the leaders of the scouting fire teams to obtain as much information as possible. The platoon commander then returns the scouting fire teams to the control of the squad leaders.

6203. FINAL PREPARATIONS IN THE ASSEMBLY AREA

a. General.--Final preparations for the attack are normally completed when the squad is in the assembly area. Those not completed may be accomplished in the attack position. These preparations include reconnoitering, formulating plans, and issuing orders, as well as the following:

(1) Additional ammunition is drawn and distributed.

(2) Weapons, equipment, and personnel are checked for readiness.

(3) Equipment not required for the attack is collected and stacked for later pickup.

(4) Extra or special equipment needed for the operation is obtained and issued.

(5) Personnel are allowed to rest to the maximum extent possible.

(6) Communication equipment is checked for serviceability, and frequencies and call signs are promulgated.

b. Assembly Area.--An assembly area is an area where units assemble prior to further tactical action. Assembly areas should provide concealment, dispersion, suitable routes forward, and security from ground or air attack. When possible, they should be located beyond the effective range of hostile flat trajectory weapons.

c. Attack Position.--The attack position is the last concealed and covered position occupied by assault echelons before crossing the line of departure. It is the location where final coordination, last-minute preparations, and deployment into initial attack formations are effected. When all preparations for the attack are completed in the assembly area, there should be no delay when passing through the attack position. (See fig. 31.)

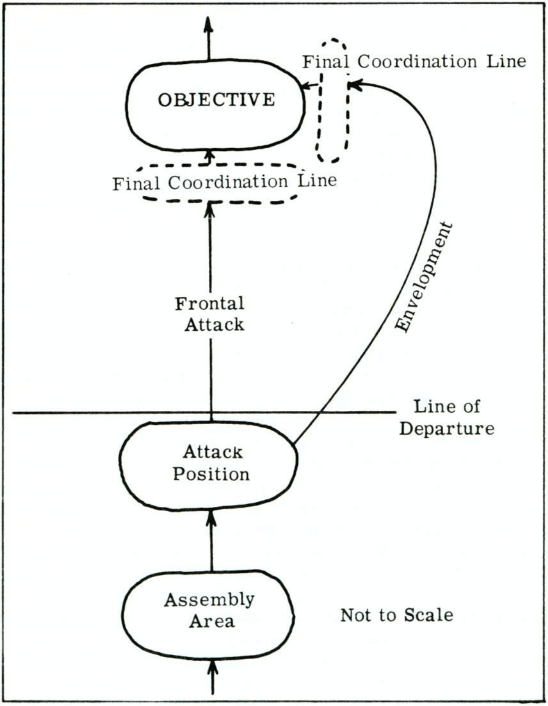


Figure 31.--Typical Tactical Control Measures Used By Rifle Squad in a Dismounted Daylight Attack (Schematic).

d. Troop Leading Procedure.--The troop leading steps are a useful method for assisting the squad leader in preparing for an attack. Explanation of these procedures is included in paragraph 1303.

e. Attack Plan.--The fourth step of the troop leading procedures requires the squad leader to complete his attack plan. There are two attack plans for a squad:

(1) A single envelopment. (See par. 6303h(1).)

(2) A frontal attack. (See par. 6303h(2).)

f. Issue Attack Order.--Having completed his plan of attack, the squad leader issues his attack order. (See par. 1305 for the five-paragraph order format.) An example of the type of information included in a five-paragraph order follows:

Unit: 3d Squad, 2d Platoon with assault team attached.

Terrain Orientation (given prior to issuance of the order): "That direction is north (pointing). Notice that ridgeline to our front, generally east and west. Note that line of thick low bushes. Notice that finger ridge running to the north with the trail up its center (pointing)."

Five-paragraph order: (In giving an order, paragraph numbers and titles are not used.)

(1) Situation

(a) Enemy Forces.--"The main enemy force is defending along that high ground to north (pointing). His automatic weapons are well dug in near the military crest. I observed some riflemen in open foxholes around the automatic weapons. I can't tell exactly how many of them there are."

(b) Friendly Forces.--"Our platoon attacks at 0815 to seize the left half of company objective. The 2d Squad is on our left. The 1st Platoon attacks on our right to seize the right half of the company objective."

(c) Attachments and Detachments.--"An assault team will be attached to us. They're ours at 0745."

(2) Mission.--"Our squad attacks at 0815 on a frontage of 125 meters to seize the squad objective."

(3) Execution

(a) Concept of Operation.--"We will cross the line of departure in a squad wedge and attack the objective frontally, guiding on that trail up the center of the finger."

(b) Subordinate Missions.--"Cpl Jones, I want your team to lead off in the wedge. You will be base fire team for the attack. Guide on that trail going up the center of the finger. We'll go into a squad line at the final coordination line with your fire team in the center. Take the center one-third of the knob from the red dirt slash on the left to the trail on the right."

"Cpl Smith, your fire team will be to the right rear of Cpl Jones' as we move out. Watch for the 1st Platoon on your right. At the final coordination line, come up abreast of Cpl Jones' fire team. You'll be the right fire team in the assault. Take the right one-third of the knob, from the trail right to the tree line."

"Cpl Webb, keep the 3d fire team to the left rear of the 1st initially. Watch for the 2d Squad on your left. Come abreast of the 1st fire team at the final coordination line. You'll be the left fire team in the assault. Assault the left one-third of the knob, left from the red dirt slash to the draw."

"Assault team, general support. Follow in trace of the 1st fire team by about 50 meters. Engage targets of opportunity during our movement. Consolidate on the objective with the 1st fire team upon completion of the assault."

(c) Coordinating Instruction.--"Line of departure is that line of thick low bushes. Direction of attack is north. The tentative final coordination line will be approximately 100 meters short of the objective."

(4) Administrative and Logistics.--"Cpl Jones, send two men to the platoon guide to draw 10 frag hand grenades. Each fire team will get three. I will carry the other one. A corpsman will be directly to our rear. Rations and ammo will be issued on the objective. Evacuate casualties and PW's to the immediate rear."

(5) Command and Signal

(a) Communication and Special Signal Instructions.--"The red smoke grenades will be used by the assaulting units to signal supporting fires to lift."

(b) Location of the Commander.--"I will be with the 1st fire team in the assault and when we consolidate on the knob. The Lieutenant will be with the 2d Squad. It is now 0709. Any questions?"

Section III. CONDUCT PHASE

6301. GENERAL

The conduct phase of the attack begins when one of the following occurs:

a. The squad is forced to fire on the enemy in order to advance.

b. The squad leaves the assembly area.

c. In the absence of an assembly area or attack position, the leading troops cross the line of departure.

6302. MOVEMENT TO THE LINE OF DEPARTURE

Upon leaving the assembly area, the squad makes a rapid and continuous advance across the line of departure (LD). If necessary, a brief halt to effect last minute coordination and assume combat formations may be made in the attack position. If the squad is subjected to artillery or mortar fire along the route, it moves quickly through or around the impact area. See figure 31 for tactical control measures used by the squad in an attack.

6303. MOVEMENT FORWARD OF THE LINE OF DEPARTURE TO THE FINAL COORDINATION LINE

a. General.--When the squad reaches a point where it can no longer advance without sustaining excessive casualties, the squad leader orders one or more fire teams to fire on the enemy positions. The remainder of the squad moves forward under the protection of this covering fire. The maneuver used in a particular situation is decided by the squad leader, based on his rapid estimate of the situation. When the resistance is isolated and has exposed flanks, the squad leader attempts to maneuver over a covered and concealed route so as to strike the enemy resistance in the flank or rear. When this is not possible, a frontal attack requiring fire and maneuver is executed.

b. Fire and Maneuver.--Fire and maneuver is the process of one or more elements establishing a base of fire to engage the enemy, while the other element(s) maneuvers to an advantageous position from which to close with and destroy or capture the enemy. Supporting fires from weapons not organic to the squad may be provided. Supporting fires should be followed closely by the advancing troops so that the advantage of the shock effect of the fire upon the enemy will not be lost.

c. Fire and Movement.--Once the maneuver element meets enemy opposition and can no longer advance under the cover of the base of fire, it employs fire and movement to continue its forward movement to a position from which it can assault the enemy position. In the squad, fire and movement consists of individuals or fire teams providing covering fire while other individuals or fire teams advance toward the enemy or assault the enemy position.

d. Squad Teams. --The organization of the rifle squad into three fire teams provides the squad leader with three elements to execute fire and movement or fire and maneuver. One or more fire teams are employed either as maneuver elements or base of fire elements. The role of any fire team may change during the conduct of any particular action. For example, if the maneuver element is prevented by enemy action or terrain from closing with the enemy, it assumes the base of fire role to cover the advance of the other team(s) which then becomes the maneuver element.

e. Base of Fire Element

(1) The base of fire assists the maneuver element in its advance toward the enemy position by engaging all known or suspected targets.

(2) Upon opening fire, the squad seeks to gain fire superiority over the enemy holding up its advance. Fire superiority is gained by subjecting the enemy to fire of such accuracy and volume that the enemy fire ceases or becomes ineffective.

f. Maneuver Element

(1) The mission of the maneuver element is to close with and destroy or capture the enemy. It advances and assaults under the close covering fire of the base of fire element.

(2) The maneuver element's principal job is to maintain the advance toward the enemy. It may be the entire squad when the squad acts as a maneuver element for the platoon. It uses available cover and concealment to the maximum. Depending upon the terrain and effectiveness of the supporting fire, the maneuver element advances by team movement--within

the team, by fire and movement, employing rushes, or creeping and crawling as necessary. Regardless of how it moves, it must continue to advance. If terrain permits, the maneuver element may be able to move forward, under cover and concealment, to positions within hand grenade range of the enemy.

g. Control of the Squad.--Fire team leaders initiate the action directed by the squad leader. Fire team leaders act as fighter-leaders, controlling their fire teams primarily by example. Fire team members base their actions on their fire team leader. Throughout the action, fire team leaders exercise such positive control as is necessary to ensure that their fire teams function as directed. The squad leader locates himself where he can best control and influence the action.

h. Use of Maneuver.--Once fire superiority has been gained, the squad continues its advance. Fire superiority is maintained throughout the attack in order to ensure the success of any maneuver. Before advancing any part of his squad, the squad leader should assure himself that there is sufficient fire on the enemy position to render return fire ineffective. Two forms of maneuver for the rifle squad are the single envelopment and the frontal attack using rushes. In a single envelopment, the maneuver element attacks against the flank or immediate rear of the enemy's position. The frontal attack exerts pressure against the enemy's front and drives him off the objective.

(1) Single Envelopment.--When moving against the enemy's flank, part of the squad

provides a base of fire to cover the maneuvering element. This maneuvering element moves toward the flank of the enemy so as to place itself in a position to assault. The maneuvering element takes advantage of all cover and concealment, keeping the enemy unaware of its movements until the assault begins. When the assault is commenced by the maneuvering element, the base of fire shifts to another part of the enemy position or ceases firing entirely. If observation permits, it is desirable to have the base of fire lead the maneuvering element across the objective by fire. The single envelopment splits the enemy's defensive fires (part on the supporting attack and part on the main attack) and allows the squad to attack over ground of its choice; however, it increases vulnerability during the attack. If the enemy can defeat the forces that have been divided, he may be able to repel the attack.

(2) Frontal Attack.--When there is no opportunity for maneuver to either flank of the enemy, the squad moves directly to the front. The squad leader orders one or more fire teams to advance under cover of the fire of the remaining fire team(s) or a platoon directed base of fire. Fire teams advance as rapidly as possible to new firing positions, using the cover and concealment available. When new firing positions have been reached, the maneuver element opens fire. The fire team(s) providing the base of fire ceases fire when the maneuvering element commences firing. Under cover of this newly established fire, the fire teams which act as the initial base of fire move forward, using the available cover and concealment. This process is continued until the squad is in position to assault the

enemy. The squad leader moves to successive positions from where he can best maintain effective control of his squad. The grenadier/ rifleman is told when and how to move by the squad leader prior to the start of the attack. The frontal attack is the most frequently used form of maneuver by the rifle squad. The frontal attack requires less time and coordination and is simpler than the single envelopment. However, the frontal attack has little chance of surprise and moves into the enemy's strength and prepared fires.

i. Method of Advance.--When making either a single envelopment or a frontal attack, a rifle squad has three methods by which it may move. The squad may move as a unit in a series of squad rushes, the squad may move by fire teams in a series of fire team rushes, or the members of the squad may move forward singly by individual rushes. In all three, the element of speed is necessary.

6304. MOVEMENT FROM THE FINAL COORDINATION LINE THROUGH THE OBJECTIVE

a. General.--As the squad approaches the final coordination line, supporting fires on the enemy position increase in intensity. The squad completes its deployment so that it crosses the line in its assault formation.

b. Final Coordination Line.--The final coordination line is used to coordinate the ceasing or shifting of supporting fires and final deployment of the squad in preparation for conducting an assault against an enemy position. It is located as close to the enemy positions on the objective as attacking troops can move before becoming exposed to supporting fires (base of fire). The distance from the final coordination line to the objective varies with the terrain and types of supporting arms employed. If the squad leader is the assault element leader and he determines that fewer casualties will be suffered if the squad moves closer to the enemy positions prior to the assault, he may move the final coordination line closer to the enemy positions than its tentative location. The assault element then continues to advance to the new location by fire and movement techniques and initiates the assault therefrom. When the line is changed, the platoon commander and fire support units must be notified.

c. Squad in the Assault.--The assault starts on order or signal from the platoon commander or on the initiative of a squad or fire team leader, depending upon which level is commanding the assault element. Assault fire techniques (see par. 2703b(2)) are employed when fire superiority is gained. This condition cannot be determined prior to crossing the final coordination line but may occur at any time between the final coordination line and the enemy position. In closing with the enemy, riflemen move rapidly, firing well-directed shots from the pointing position at locations in their zone of advance that could conceivably be occupied by the enemy. Squad automatic weapons are fired in two- or three-round bursts from the underarm firing position covering as much of the squad front as possible. Grenadier/riflemen fire well directed rifle fire from either the offhand or underarm position. Once a hardened or area target presents itself, based on the command of the fire team leader or on the grenadier/rifleman's own initiative, he will commence to fire the grenade launcher until the target is destroyed/neutralized or until he cannot place effective fire on the target without endangering friendly troops. He then reverts to the role of a rifleman. Rifle grenades, hand grenades, bayonets, and flame weapons are used to overcome pockets of resistance. The assault element does not stop at the near edge of the objective but moves far enough through the objective to place fire on enemy withdrawing elements and utilize fire superiority to protect against a counterattack.

d. Squad in the Assault Without Fire Superiority.--When fire superiority cannot be gained because sufficient supporting fires are not available to neutralize the enemy fires, fire and movement by the maneuver element is the only means by which the attack can proceed. The maneuver element will take maximum advantage of cover and concealment employing short, frequent individual rushes (creeping and crawling when necessary) and use its own fires to close with the enemy positions. The first elements to gain a foothold within the enemy positions will support the remainder of the assault to destroy the enemy.

Section IV. CONSOLIDATION AND REORGANIZATION PHASE

6401. GENERAL

The purpose of consolidation and reorganization is to prepare the squad for future action. It covers the period from the completion of the assault to when further action is taken to exploit success.

6402. CONSOLIDATION

a. General.--Consolidation pertains to all measures taken to organize and strengthen a newly captured position. Immediately upon seizure of the objective, the squad leader will stress security, assign sectors of fire, and make a reconnaissance. No action will be taken to slow the momentum of the attack if it is to be continued.

b. Security Measures.--Enemy artillery and mortar fire followed by sharp counterattacks can be expected after capture of an objective. Therefore, the squad leader quickly organizes a defense of the position to repel any enemy counterattacks. The initial defense plans will have been prescribed by the squad leader in his attack order. A quick visual reconnaissance by the squad leader, a rapid mental estimate of the situation (METT), and brief orders to subordinates are required. The squad leader gives primary consideration to the positions of the three fire teams. He also gives consideration to the positions of the grenadier/rifleman and the automatic rifle in each fire team. Local security is established to the front. Troops dig in as necessary and reconnoiter to the immediate front. This position is maintained until orders are received from the platoon commander to continue the advance or until the reorganization of the squad is completed.

6403. REORGANIZATION

Reorganization is a continuous process, but it is given special emphasis upon seizure of the objective. The squad leader accomplishes the following during reorganization:

a. Makes spot assignments to replace fire team leaders and grenadier/riflemen who become casualties.

b. Redistributes ammunition, magazines, and grenades.

c. Removes casualties to covered positions.

d. Notifies the platoon commander of the situation, the position of the squad, the casualties incurred, and the status of ammunition supply.

e. Disarms enemy prisoners and sends them to the platoon commander. Prisoners and enemy dead are searched for papers, documents, and identification. Such material is immedately sent to the platoon commander. (See pars. 1402 and 1404.)

f. Ascertains the situation of the units to his flanks.

Section V. EXPLOITATION AND PURSUIT

6501. EXPLOITATION

Exploitation normally occurs after a successful assault and seizure of the objective. It begins immediately after or in conjunction with the consolidation and reorganization phase. It is a continuation of the attack aimed at destroying the enemy's ability to conduct an orderly withdrawal or organize a defense. Pursuit by fire and/or continuation of the attack are methods used to exploit success.

a. Pursuit By Fire.--When the assault through the assigned objective is completed, the squad fires upon the withdrawing enemy forces until they are no longer visible or are beyond effective range.

b. Continuation of the Attack.--The purpose of continuing the attack is to maintain pressure on the retreating enemy and destroy his combat power. When ordered, the rifle squad continues the attack. The squad leader repeats all the steps performed for previous attacks. Frequently, the urgent need of a higher command to maintain momentum requires that these steps be done rapidly so that the attack can be continued with minimum delay.

6502. PURSUIT

An exploitation may develop into a pursuit. The primary function of pursuit is to complete the destruction of the enemy force.

It begins when the enemy cannot maintain his position and tries to escape or retreat. The pursuit is continued rapidly with the objective of destroying the enemy's organization and lowering his morale. The squad's participation in a pursuit normally is a continuation of the attack or movement as an element of a tactical or approach march.

Section VI. NIGHT ATTACK

6601. GENERAL

a. Purpose.--A night attack may be made to gain surprise, to maintain pressure, to exploit a success in continuation of daylight operations, to seize terrain for subsequent operations, or to avoid heavy losses by using the concealment afforded by darkness.

b. Characteristics.--Night combat is characterized by a decrease in the ability to place aimed fire on the enemy; a corresponding increase in the importance of close combat, volume of fire, and the fires of weapons registered during daylight; difficulty of movement; and difficulty in maintaining control, direction, and contact. Despite these difficulties, the night attack gives the attacker a psychological advantage in that it magnifies the defender's doubts, apprehensions, and fear of the unknown. The difficulties mentioned can be overcome by careful planning and preparation for the attack. The demand for time-consuming detailed planning and reconnaissance at all levels normally requires the assignment of night attack missions to units not in physical contact with the enemy.

6602. CONTROL MEASURES

a. General.--The degree of visibility will determine the measures necessary to assure control. The following control measures will normally be prescribed in a night attack (see fig. 32):

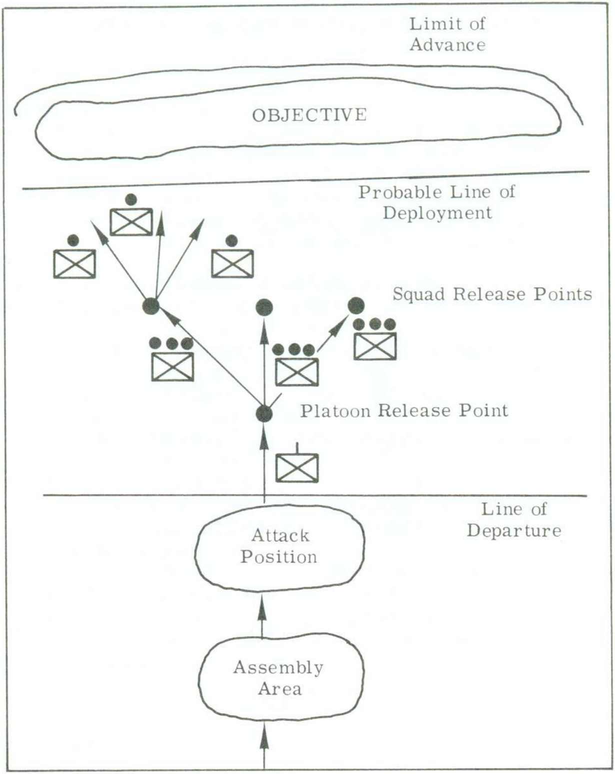


Figure 32.--Control Measures for Night Attacks.

b. Tactical Control Measures.--Terrain features used as tactical control measures, if not easily identifiable at night, may be marked by artificial means.

(1) Assembly Area.--The assembly area may be closer to the line of departure than for a daylight attack.

(2) Attack Position.--The attack position should be in defilade, but need not offer as much concealment as in daylight. The area selected should be easy to move into and out of at night.

(3) Line of Departure.--The line of departure is a line established to coordinate attacking units when beginning the attack.

(4) Release Point (RP).--Release points are clearly defined points on a route where units are released to the control of their respective leaders. (See fig. 32.)

(5) Probable Line of Deployment (PLD).--The probable line of deployment is an easily recognized line selected on the ground where attacking units deploy in line formation prior to beginning a night attack. (See fig. 32.)

(6) Limit of Advance.--A line of advance is generally designated beyond the objective to stop the advance of attacking units. It should be easily recognizable in the dark (a stream, road, edge of woods, etc.) and far enough beyond the objective to allow security elements space to operate.

6603. SECURITY PATROLS

Members of the squad may be used as security patrols to assist night attacks. These patrols maintain security on the PLD, eliminate enemy security elements, and prevent attacking forces from being ambushed while en route to the PLD. They may also act as guides to lead units forward from the release points to the PLD.

6604. PREPARATORY PHASE FOR THE NIGHT ATTACK

Preparation for the night attack is generally the same as for the daylight attack. The squad leader will follow the same format outlined in paragraphs 1303 and 1304 when preparing for and executing assigned missions. Special emphasis is placed on:

a. Reconnaissance by squad and fire team leaders to locate assigned control features and terrain features for night orientation. Such reconnaissance should be conducted during three conditions of visibility: daylight, dusk, and dark.

b. Rehearsals conducted both during daylight and darkness. Rehearsals should include formations, audible and visual signals, and the actions of the squad from the assembly area to the objective.

c. Carrying only that equipment absolutely essential for the success of the attack.

d. Camouflaging individuals and equipment. Equipment which rattles is padded or tied down.

e. Avoiding test firing of weapons and unnecessary movement, or doing this in a way which will not prematurely disclose the forthcoming attack.

f. Ensuring that the night vision of the squad members is not destroyed prior to the attack.

6605. CONDUCT PHASE OF THE NIGHT ATTACK

a. Movement to the Probable Line of Deployment

(1) Security patrols sent out by higher commanders destroy enemy listening posts and security patrols enabling the unit to move to the PLD undetected.

(2) The platoons move in column formation from the assembly area to the platoon release point. At the platoon release point, the platoons meet their guides from the security patrol and continue to move along their respective routes to their squad release points.

(3) Once the squad crosses the line of departure, movement to the PLD is continuous. The rate of advance is slow enough to permit silent movement.

(4) If flares are fired during the movement forward, all hands quickly assume the prone position until the flares burn out. If a flare is fired after the squad leaves the PLD, the squad ignores the flare and continues the movement toward the assigned objective. Close coordination is required on the use of flares. Indiscriminate use of flares results in loss of surprise. If the attack is to be illuminated, the illumination is started on signal from the attacking elements (usually after reaching the PLD).

(5) On arrival at the squad release point, the rifle squads are released from the platoon column formation to deploy on line at the probable line of deployment. The squad leader is normally the first member of his squad in the column. When the rifle squad reaches the squad release point, he leads the column, sets the pace, and maintains the direction of movement. Members of the security patrols assist the squad leaders in positioning the squads on the probable line of deployment.

(6) On order, the squad moves forward silently from the probable line of deployment, maintaining the squad line formation and guiding on the base squad.

b. Assault.--Once the enemy has discovered the attack and firing has commenced, then and only then is the assault commenced. The signal for the assault can take any form, but it must be simple and reliable. The importance of developing a great volume of fire during the assault cannot be overemphasized. It is at this time that fire superiority must be established and maintained. The assault is conducted aggressively. Tracer fires should be used to increase accuracy of fire and to demoralize the enemy. Preplanned fires are used by higher commanders to isolate the objective. The assault is conducted in the same manner as discussed in paragraph 6304. The assault is carried forward to the forward military crest of the objective or to some other prescribed limit short of the limit of advance.

6606. CONSOLIDATION AND REORGANIZATION PHASE OF THE NIGHT ATTACK

When the objective has been seized, the plans for consolidation and reorganization are carried out as described in paragraphs 6402 and 6403. The squad does not move or employ security elements forward of the limit of advance (see fig. 32) until ordered.

Section VII. INFILTRATION

6701. GENERAL

Tactical infiltration is a form of penetration involving the moving of forces into the enemy rear by small groups. The infiltrating groups move by stealth, avoid enemy contact, and assemble at a concealed rendezvous point.

6702. PLANNING AND PREPARATION

a. Organization.--The size of the infiltrating group depends primarily on the need for control between infiltrating groups, and the number and size of gaps in enemy defenses. Normally, units will be broken down into infiltration groups of platoon or squad size.

b. Order.--A detailed order is issued for the attack. Each infiltrating group is issued the following information as a minimum:

(1) Release point.
(2) Time of release.
(3) Point of departure.
(4) Time of infiltration.
(5) Infiltration lane.
(6) Rendezvous point.
(7) Alternate rendezvous points.
(8) Time of rendezvous.
(9) Routes from rendezvous to attack positions.

c. Preparation.--Upon receipt of the order, the group leaders follow the troop leading procedures as discussed in paragraph 1303.

The planning, preparation, and conduct of each infiltration group is the same as for a separate patrol. For details on patrolling, see chapter 8. While the group leaders accomplish their troop leading steps, the assistant group leaders prepare their groups for infiltration. Necessary equipment is drawn, checked, and secured for silent movement. Each man prepares himself and his equipment for the operation. Where possible, each infiltration group should carry the necessary special equipment to accomplish the mission of the major unit. This ensures the accomplishment of the mission in the event all groups do not participate in the attack. After the group leaders issue their order, rehearsals covering the passage of lines, actions in danger areas, enemy contact, signals, as well as actions at the rendezvous points and objective are conducted. Everyone should be required to memorize the route, azimuths to, and the location of rendezvous points. The accomplishment of the mission rests primarily on the ability of the small unit leaders. The planning and preparation must be as thorough and as detailed as time and facilities will permit. Fires are planned by higher commanders to create diversions and to protect and support the unit during the infiltration, at the rendezvous area, and during the attack and consolidation or withdrawal.

d. Control Measures

(1) Infiltration Lanes.--Infiltration lanes extend through known or likely gaps in the enemy defenses and are often located in rough, swampy, or heavily forested areas. (See fig. 33.)

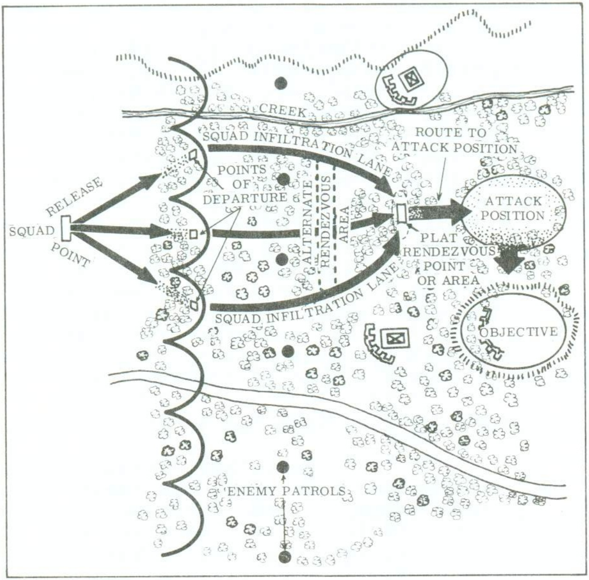


Figure 33.--Attack Using Infiltration Technique.

(2) Rendezvous Points.--Rendezvous points should be concealed from possible enemy detection by observation and patrols. They are secured by the first group into the area. Escape routes should be designated to alternate rendezvous points.

(3) Time of Infiltration.--The time of infiltration is selected to take advantage of conditions of reduced visibility, such as darkness, rain, snow, fog, etc. It is the time when infiltration groups enter their assigned infiltration lanes.

(4) Routes.--Routes to the objective from the rendezvous points should be concealed for surprise and for protection.

(5) Objectives.--Objectives may be enemy reserves, artillery units, or command and logistic installations. Infiltrating forces may also seize key terrain or establish roadblocks to restrict enemy movement, isolate the battle area, and facilitate the movement of friendly mechanized forces.

6703. CONDUCT OF THE ATTACK BY INFILTRATION

a. Movement of Groups.--The infiltrating groups move by stealth to avoid detection. The major unit will assemble the infiltration groups to the rear of friendly lines. The major unit will then move forward, usually in a column, until it reaches the release point. At the release point, the infiltration groups are released to their leaders. The infiltration group crosses the line of departure (usually friendly frontlines) at the specified time of infiltration. This is normally during a period of darkness. Artillery or mortar fires are used as necessary to distract enemy attention. The infiltration groups pass through the gaps in the enemy lines by using the designated infiltration lanes. If detected, groups avoid engagement by withdrawing or moving around the enemy. Speed of movement is limited by the requirement for stealth. Groups which are unable to reach their rendezvous point in time follow the previously announced alternate plan.

b. Assembly of Groups.--At the rendezvous point, groups assemble and attack preparations are completed. The first infiltration group to reach the rendezvous point secures it. The assembled force leaves the rendezvous point to attack the objective at the designated time. The main body may be preceded by a small security patrol. Its mission is to prevent the main body from being detected or surprised.

c. Attack.--Short of the objective, the force is halted for final reconnaissance and coordination. This attack position should be the last safe, covered, and concealed area before reaching the objective. The attack on the objective is characterized by surprise and maximum firepower at the objective's weakest point to quickly destroy or capture it. The attack may be made by using the raid (see par. 8602), daylight attack (see pars. 6304 and 6403), or night attack (see par. 6605) technique. Platoons acting alone use the raid technique. If the objective is retained, it is consolidated against enemy counterattacks. If plans are to link up with other friendly forces, previously designated visual and sound recognition signals prevent fire fights between friendly units. If the objective is not retained, the attacking force withdraws to an assembly area for further attacks or withdraws to friendly lines. The withdrawal to friendly lines may be by air or by exfiltration, either as an intact unit or by infiltration groups. Upon reaching friendly lines, the unit is again reassembled.

CHAPTER 7

DEFENSIVE COMBAT

Section I. GENERAL

7101. PURPOSE

The purpose of defensive action is to gain time pending the development of more favorable conditions for the offensive, or to economize forces on one front for the purpose of concentrating superior forces for an offensive elsewhere.

7102. GENERAL

a. Primary Position.--The primary position is the best position from which the squad can carry out its primary mission.

b. Supplementary Position.--A supplementary position is a position from which the squad can fire on targets which cannot be engaged from either the primary or alternate position. The supplementary position is used by the squad to carry out a mission other than its primary mission. For example, firing on enemy troops attacking the flanks or rear of the platoon defense area.

c. Alternate Position.--An alternate position is a position given to a weapons unit or individual to be occupied when the primary position becomes untenable or unsuitable for carrying out its task. It is developed in addition to primary and supplementary positions.

The alternate position is so located that the weapon can continue to fulfill its original task. Normally, the rifle squad is not required to prepare alternate positions.

d. Defense Area.--An area of ground assigned to a unit to defend. The entire defense area is not physically occupied by troops and weapons; unoccupied portions are covered by fire. (See fig. 34.)

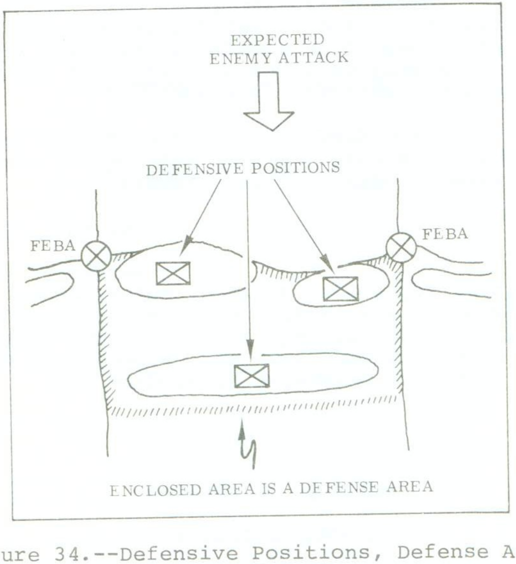


Figure 34.--Defensive Positions, Defense Area, and FEBA.

e. Forward Edge of the Battle Area (FEBA).--The FEBA is an imaginary line joining the foremost limits of a series of areas in which ground combat units are deployed.

7103. DEFENSIVE MISSIONS OF THE SQUAD

The squad will be assigned one of three types of missions:

a. Frontline Squad.--The squad may defend as part of a frontline platoon. Its mission is to stop the enemy by fire forward of the FEBA and to repel him by close combat if he reaches the squad position. The mission requires that the squad be assigned a definite position and sector of fire. The squad holds its position at all cost and withdraws or occupies other positions only on orders from higher authority.

b. Squad as Part of the Reserves.--The squad may be part of the reserve platoon during the defense. As part of the reserve platoon, the squad is normally assigned a position to the rear of the frontline units and supports the frontline units by fire in an assigned sector. The sector of fire is assigned to concentrate fire in the rear or on the flanks of a frontline unit or into a gap between frontline units. The squad as part of the reserve platoon may also be assigned a defensive position and sector of fire to limit enemy penetrations of the FEBA. The squad as part of a larger reserve unit may participate in a counterattack or limit large penetrations of the FEBA.

c. Squad as a Security Element.--The squad may serve as part of the security element during the defense, located forward of the FEBA. The squad's mission in this capacity is to gain information of the enemy and to deceive, delay, and disorganize his advance.

7104. PREPARATION FOR THE DEFENSE

a. Normally, a rifle squad is employed with maximum firepower directed toward the expected direction of enemy attack. Its primary position is located to take maximum advantage of the terrain and fields of fire.

b. The rifle squad also prepares supplementary positions. These positions are organized the same as the primary positions, but are oriented to cover approaches that cannot be covered from the primary position.

Section II. DEFENSIVE PROCEDURES

7201. TROOP LEADING PROCEDURE IN THE DEFENSE

a. General.--Upon receiving the platoon defense order, the squad leader will use the troop leading steps to assist him in making the best use of time, facilities, and personnel. Utilizing these steps and satisfactorily completing an estimate of the situation, he issues his squad defense order. This follows the five-paragraph order format which includes:

(1) Information of the enemy, the location and identification of adjacent squads and platoons, and the location of supporting weapons within the squad area.

(2) Mission of the squad.

(3) Positions and sectors of fire for each team leader, rifleman, grenadier/rifleman, and automatic rifleman. Providing for antitank defense by assigning antitank weapons to selected members of the squad. Organization of the ground, including the type of emplacements, priority of work, and other instructions.

(4) Administrative and supply details such as ammunition resupply and the location of the aid station.

(5) Prearranged signals such as pyrotechnics or audible signals designating when to open fire or deliver final protective fires, and the location of the squad leader and platoon commander.

b. Guidance.--For troop leading procedure, see paragraph 1303. For estimate of the situation, see paragraph 1304. For the five-paragraph order, see paragraph 1305.

7202. SQUAD PLAN OF DEFENSE

After issuing the squad defense order, the squad leader positions his fire teams to cover the front and the flanks of the squad area. Before detailed preparations of positions are begun, the squad leader verifies the observation and sector of fire of each man. During his check of the positions, he ensures that sectors of fire overlap and that the desired density of fire can be delivered on avenues of approach. The squad leader's responsibilities during the preparation of the position include:

a. In conjunction with fire team leaders, selects firing positions for each rifleman and assigns sectors of fire.

b. Selects firing positions and sectors of fire for the squad automatic weapons.

c. In conjunction with fire team leaders, selects firing position and sectors of fire for the grenadier/riflemen.

d. Assigns each automatic rifleman a principal direction of fire (PDF) covering a likely avenue of enemy approach or dead space in the final protective lines of machineguns. The PDF is within the sector of fire assigned to the automatic rifleman or is on one edge of the sector.

e. Coordinates with other weapons located in the squad area.

f. Supervises the preparation of foxholes.

g. Supervises the clearing of fields of fire.

h. Provide squad security through assignment of sentinels or OP's.

i. Coordinates all security measures with adjacent units and platoon commander.

j. Inspects positions to ensure that camouflage and overhead cover are sufficient.

k. Supervises the preparation of supplementary positions.

l. Establishes a system of signals for firing.

(1) Signal to Commence Firing.--A forward limit to the assigned sector of fire is established at the range at which the weapon opens fire. For rifles and automatic rifles, this may extend up to their maximum effective range. A terrain feature may be selected to locate the forward limit. As the attacker passes this limit, he is brought under fire. This establishes a positive means of fire control to ensure that small arms fire is not premature or withheld too long.

(2) Signal to Commence Final Protective Fires.--Final protective fires consist of the machinegun fires, mortars, artillery,

the PDF's of automatic rifles, sectors of fire of individual rifles, and the grenadier/rifleman's sector of fire. The signal to commence these fires (passed by higher echelon) is a prearranged pyrotechnic or audible signal

(3) Signal to Cease Final Protective Fires.--Predetermined signals are used to cease final protective fires. When the enemy assault is repulsed, the signal to cease fire is given.

m. The squad leader prepares a sketch in duplicate of the squad fire plan. He gives one copy of the sketch to the platoon commander for his approval and keeps a copy for himself. The sketch includes fire team positions and sectors of fire, positions and principle directions of fire of the automatic rifles, and position of the squad leader. If the squad is providing protection for a crew-served weapon, its position and final protective line or primary direction of fire should be included as part of the sketch. Prominent terrain features and the estimated ranges to them should be so indicated that the sketch of the fire plan can be oriented on the ground. See appendix A for an example of a squad fire plan and symbols.)

7203. SQUAD SECURITY

The rifle squad provides for its security by alertness. Enough squad members are kept to maintain an effective warning system. When a defensive position is being prepared during the hours of daylight and the enemy is not close to the squad's position, a minimum of one sentinel is posted in the squad area.

When contact with the enemy is probable or imminent, or during periods of limited visibility, additional sentinels will be required. If one-man foxholes are employed, alternate men will be posted. In the case of two-man foxholes, one man from each is normally posted as a sentinel. In either case, those men not posted as sentinels will continue preparing the position. The number of men kept on alert during such periods will vary. The frequency of relief for sentinels and listening posts is affected by such considerations as the physical condition of the men, effects of extreme weather conditions, morale, and strength of the squad. As a guide, relief every 2 hours is desirable.

7204. ORGANIZATION OF THE GROUND

a. General.--The organization of the ground begins as soon as individual members of the squad have been assigned defensive positions. It includes the following tasks:

(1) Posting security (LP's, OP's, patrols).
(2) Positioning automatic weapons.
(3) Clearing fields of fire.
(4) Digging foxholes.
(5) Constructing obstacles.
(6) Selecting supplementary and alternate positions.
(7) Camouflage measures.

b. Posting Security.--Security consists of measures taken to prevent surprise and to deny the enemy information concerning the plan of defense. All-round security and protection against surprise are gained by:

(1) Posting a sentinel for surveillance.

(2) Posting one man with each crew-served weapon.

(3) Enforcing noise discipline.

c. Positioning Automatic Weapons.--Automatic weapons are located to cover the most likely avenues of approach into the squad area, to provide mutual fire support for adjacent fire teams, and to participate in the delivery of final protective fires.

d. Clearing Fields of Fire.--In clearing fields of fire forward of each foxhole, the following principles are observed:

(1) Do not disclose the squad's position by excessive or careless clearing.

(2) Start clearing near the FEBA and work forward to the limits of effective small arms fire.

(3) In all cases, leave a thin natural screen of foilage to hide defensive positions.

(4) In sparsely wooded areas, remove the lower branches of scattered, large trees. It may be desirable to remove entire trees which might be used as reference points for enemy fire.

(5) In heavy woods, complete clearing of the field of fire is neither possible or desirable. Restrict work to thinning undergrowth and removing lower branches of large trees. In addition, clear narrow lanes for fire of automatic weapons.

(6) If practical, demolish other obstructions to fire, such as buildings and walls.

(7) Move cut brush to points where it will not furnish concealment to the enemy, or disclose the position.

(8) Extreme care must be taken by the grenadier/rifleman to ensure that fields of fire are cleared of obstructions which might cause premature detonation of the projectile.

e. Digging Foxholes

(1) General.--Foxholes provide excellent protection against small-arms fire, shell fragments, airplane strafing or bombing, effects of nuclear detonations, and the crushing action of tanks. The one-man and two-man foxholes are basic types. The choice of type rests with the squad leader if not prescribed by higher authority. The type of foxhole used is based upon squad strength, fields of fire, size of squad sector, and morale. However, the two-man foxhole permits one Marine to rest while the other maintains security over the assigned frontage. (See par. 7204c(3).)

(2) One-Man Foxhole

(a) Dimensions.--The size and shape of the foxhole are affected by certain important considerations. It is as small as practicable, exposing a minimum target to enemy fire; wide enough to accommodate the shoulders of a man sitting on the firestep; long enough to permit the use of an entrenching tool; and at least 4 feet deep to the firestep, from which the standing occupant should be able to fire.

1 Water Sump.--A water sump, below the fire step, is dug at one end

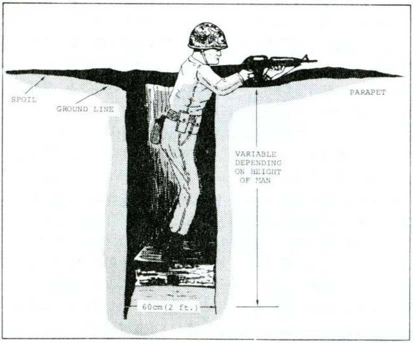


Figure 35.--One-Man Foxhole (Horizontal View).

of the foxhole to collect water and to accommodate the feet of the seated occupant. (See figs. 35 and 36.)

2 Grenade Sump.--A circular grenade sump large enough to accept the largest known enemy grenade and sloped downward at an angle of 30 degrees is excavated under the fire step beginning at the lower part of the firing step riser. (See fig. 35.)

(b) Details of Construction.--In most types of soil, the foxhole gives protection against the crushing action of tanks, provided the occupant crouches at least 2 feet

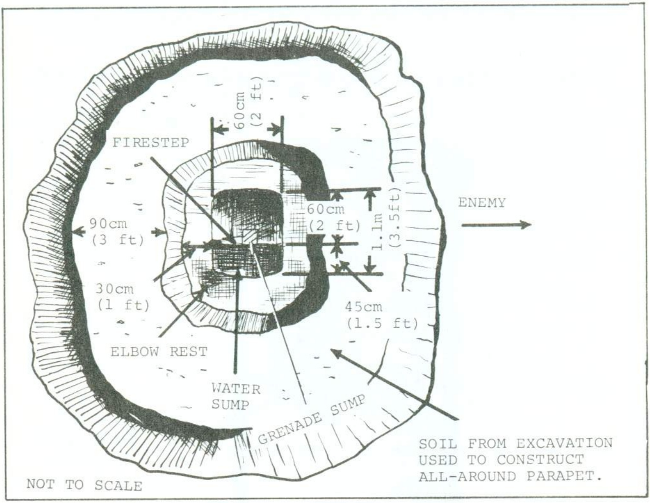


Figure 36.--One-Man Foxhole (Vertical View).

below the ground surface. (See fig. 37.) In sandy or soft soils, it may be necessary to revet the sides to prevent caving in. The spoil is piled around the hole as a parapet, approximately 3 feet thick and 1/2 foot high, leaving a berm or shelf wide enough for the individual to rest his elbows while firing.

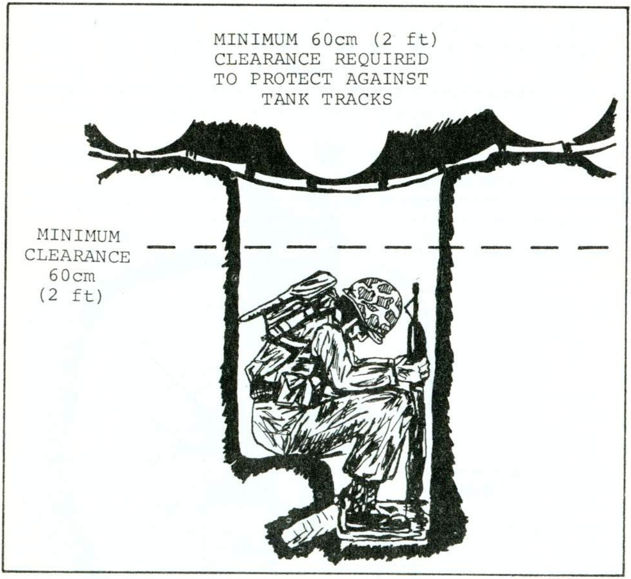


Figure 37.--One-Man Foxhole Protects Against Tanks.

If turf or topsoil is used to camouflage this parapet, the individual first removes sufficient topsoil and sets it aside until the foxhole is completed.

(c) Foxhole With Camouflaged Overhead Cover.--It is desirable that the spoil be removed to an inconspicuous place and a camouflaged overhead cover be improvised. Branches, supporting sod, or other natural material in the vicinity may be used for this purpose. The overhead cover may be reinforced to provide protection from overhead bursts of artillery fire.

(3) Two-Man Foxhole.--The two-man foxhole consists essentially of two adjacent one-man foxholes. Since it is longer than the one-man type, the two-man foxhole offers somewhat less protection against tanks crossing along the long axis, as well as less protection against strafing, bombing, and shell fragments. (See fig. 38.) Some advantages of two-man

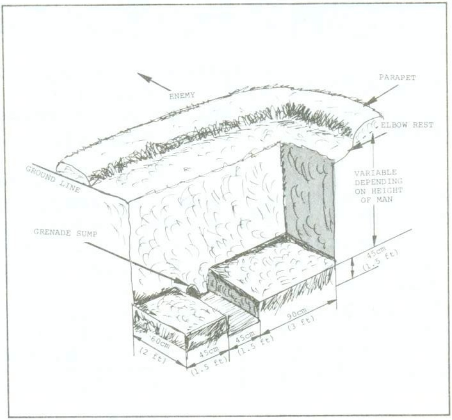


Figure 38.--Two-Man Foxhole.

foxholes are continuous observation, mutual assistance and reassurance, and redistribution of ammunition between the occupants.

f. Constructing Obstacles.--The squad may be ordered to construct obstacles, such as barbed wire, log and brush barriers, ditches, and minefields; and may be ordered to improve natural obstacles, such as creekbeds and river banks. Usually antitank obstacles and other extensive obstacles are constructed by engineer troops. When obstacles are constructed which affect the squad position, the squad leader ensures that:

(1) The obstacle is located beyond hand grenade range of the squad position.

(2) The obstacle is covered by fire from the squad position.

g. Selecting Supplementary and Alternate Positions.--The squad prepares supplementary positions organized the same as the primary positions but oriented in a different direction. If crew-served weapons are employed in the squad, then alternate positions should also be prepared.

h. Camouflage Measures

(1) General.--Concealment from enemy ground and aerial observation is very important in the selection and organization of each defensive position. Advantage is taken of natural concealment whenever possible. Camouflage measures are strictly carried out from the moment the position is occupied and are continuous.

(2) Specific Camouflage Measures.--Specific camouflage measures are:

(a) Do not disclose the position by excessive or careless clearing of fields of fire.

(b) Use the same turf or topsoil that had been removed from the area of the foxhole to camouflage the parapet.

(c) Dispose of all soil from the foxhole not used on the parapet. Carry the soil away in sandbags or shelter halves. Dispose of it under low bushes, on dirt roads or paths, in streams or ponds, or camouflage it.

(d) Avoid digging in next to an isolated bush, tree, or clump of vegetation.

(e) Conceal the foxhole from observation by the use of a camouflaged cover. Construct the cover from natural materials.

(f) Replace natural material used in camouflage before it wilts or changes color.

(g) Avoid creating fresh paths near the position. Use old paths or vary the route followed to and from the position.

(h) Avoid littering the area near the position with paper, tin cans, and other debris.

7205. SQUAD DEFENSE ORDER

The squad leader follows the standard five-paragraph order format in presenting his squad defense order. (See par. 1305.) An example defense order of the squad leader, third squad, commencing with a terrain orientation follows:

(Terrain Orientation) "That direction is north (pointing). Notice the streambed to the front, that road on the left, that destroyed bridge, and the woods on the left.

(Par. 1) "An enemy force supported by tanks, artillery, and aircraft is expected to attack from that direction (pointing), sometime after midnight tonight.

"Our platoon will defend this high ground from just this side of the road (pointing) 500 meters to the right (pointing). The FEBA runs along the forward slope of the high ground (pointing).

"The 2d squad is on our right and the 2d platoon on our left.

"There is a machinegun squad in the 2d platoon area that fires to the right, across our front, and a squad in the 1st squad area that fires to the left, across our front. An assault squad is located in our area just to the right of the road and fires down the road. Mortar final protective fires will fall in the streambed to our front and artillery final protective fires will fall in the vicinity of the road.

"Security detachments now in position to our front will withdraw along the road, probably sometime tonight.

(Par. 2) "The mission of our squad is to organize and defend a position on the FEBA from the right side of the road over to and around this nose, but not including the draw to the right. Our sector of fire includes the area between that bend in the stream on our right (pointing) and the break in the woods on our left (pointing).

(Par. 3) "Our squad will organize our defense with three fire teams on line at H-hour.

One fire team's principal direction of fire will be across the front of the 2d squad. The PDF's of the remaining two fire teams will be across the front of our squad with one fire team protecting the assault squad.

"1st fire team, on the right, will defend from that draw (pointing), around the nose to, and including, that tree stump. Your sector of fire will extend from that bend in the stream (pointing) left to the other side of that large rock (pointing). Your automatic rifleman will fire his principal direction of fire (PDF) across the front of the 2d squad. I want it to be fired from his position (pointing) to that old dead tree there (pointing).

"2d fire team, in the center, will defend from that tree stump to, and including, that bush (pointing). Your sector of fire is from the demolished bridge on the left to that clump of cattails there in the streambed (pointing). Place your automatic rifleman here and have him fire his principal direction of fire just to the left of those bushes (pointing). His sector of fire will extend to the right to include that large rock (pointing).

"3d fire team, on the left, will defend from that bush to just this side of the road. Your sector of fire is from that large rock on the right (pointing), left to that small break in the woods (pointing). Place your automatic rifleman over there (pointing) and have him fire his principal direction of fire toward that large maple tree (pointing). The automatic rifle's sector of fire will extend right to include that bush (pointing). You will protect the assault squad located in your area. Your fire team will post one man to act as security for the squad while we are digging in.

Have him remain on this high ground, and have him watch that streambed in particular. I will have him relieved in one hour.

"I will point out supplementary positions protecting the rear later.

"After I have checked each man's position and sector of fire, clear fields of fire, dig one-man foxholes with overhead cover, and camouflaged at the same time. Fire team leaders assign tasks.

"Open fire on the enemy when they come out of the woods to our front.

(Par. 4) "Water and rations will be issued before sunset. Make sure all hands have four grenades.

"The battalion aid station is along that road about 800 meters to the rear.

"Send PW's back to me.

(Par. 5) "The challenge is 'September' and the password is 'Morning.'

"Signal to commence firing the final protective fires is a red star cluster. Signal to cease firing the final protective fires is a green star cluster.

"The platoon commander is in the edge of the woods to our right rear (pointing).

"My position will be here on this nose just behind the second fire team.

"Any questions?

"It is now 1400.

"Move out!"

7206. CONDUCT OF THE DEFENSE

a. Enemy Preparatory Bombardment.--The enemy will normally precede his attack with fire from any or all of the following weapons:

artillery, naval gunfire, mortars, machineguns, tanks, and aircraft. During this attack, the squad will take cover in its prepared position, maintaining surveillance of the squad's sector to determine if the enemy is advancing closely behind their supporting fires.

b. Opening Fire and Fire Control.--Fire is withheld on approaching enemy troops until they come within effective small-arms range of the squad's position. Squad members open fire upon the approaching enemy on command of the squad leader, or when the enemy reaches a predetermined line. Once fire is opened, direct control passes to the fire team leaders. The fire team leaders, in accordance with the squad leader's previous plan, designate new targets, change rates of fire when necessary, and give the order to cease fire.

c. Final Protective Fires.--If the enemy's attack is not broken and he begins his assault, final protective fires are called. These are fires delivered immediately in front of the defensive lines. When final protective fires are called for, all squad members fire in their individual sectors at a maximum effective rate until told to stop.

d. Enemy Reaches the Squad Position.--Enemy infantry reaching the squad position are driven out by fire, grenades, and the bayonet. The success of the defense depends upon each rifle squad defending in place. A stubborn defense by frontline squads breaks up enemy attack formations and makes him vulnerable to counterattack by reserve units. The squad does not withdraw except when specifically directed by higher authority.

7207. DEFENSE AGAINST MECHANIZED ATTACK

When tanks or other armored vehicles support an enemy infantry attack, the primary target of the squad is the hostile infantry. When hostile infantry does not afford a target, the squad directs its small arms fire against the aiming devices and vision slits of enemy armor. The cumulative effect of armor-piercing ammunition may be effective against tank sprockets, bogie wheels, and tank suspension. Under no circumstances will the squad be diverted from its basic mission of engaging and destroying the hostile infantry. Antitank weapons are used against armor. Every effort is made to separate the tanks and dismounted enemy infantry.

7208. ENEMY PENETRATION OF ADJACENT AND REAR AREAS

a. Enemy Penetrates Adjacent Area.--If the position of an adjacent squad is penetrated by the enemy, the squad leader shifts a part of the squad's fire into the penetrated area, and, if necessary, moves some men to supplementary positions protecting the threatened flank.

b. Enemy Penetrates Rear Area.--If the squad position is threatened by attack from the rear, the squad leader moves some men to supplementary positions protecting the rear. In open, flat terrain, the squad leader simply orders his men to shift their fire to the rear.

c. Movement to Supplementary Positions. --Prior to moving men to supplementary positions the squad leader, if possible, requests the approval of the platoon commander. When it not possible to request permission, the squad leader notifies the platoon commander of his action as soon as possible. The squad leader avoids moving an entire fire team to supplementary positions, but instead moves one, two, or three men from each fire team, depending on the number required to protect the flank or rear. In any case, men moving to supplementary positions use either the cover provided by the communication trenches or that offered by the terrain.

7209. LOCAL SECURITY FOR PLATOONS AND COMPANIES

a. The squad often furnishes local security for platoons and companies. Security posts from two to four men are stationed by the platoon or company commander up to 500 meters forward of the platoon position. Small patrols are often used to cover the ground between security posts or as a substitute for security posts. The platoon or company commander designates the general positions to be occupied by the security posts and the routes to be covered by the patrols. The squad leader may find his squad divided into small security posts and patrols covering the platoon or company front and flanks. His duties then include:

(1) Checking to see that security posts are well concealed and permit observation of the ground over which the enemy is expected to advance.

(2) Checking to see that patrols are following the prescribed routes.

(3) Passing on to his men all available information regarding both friendly and enemy forces.

(4) Instructing his men as to what action to take in case of enemy attack.

(5) Informing the platoon or company commander immediately of enemy activity.

b. When the enemy approaches, security posts and patrols take the following action:

(1) Notify the platoon or company commander immediately of the enemy's strength, actions, direction of advance, and weapons and equipment.

(2) On order, withdraw along a predetermined route to the FEBA in time to prevent close combat. After reaching the FEBA, report all information regarding the enemy to the commander who originally ordered the patrol or security element.

7210. COMBAT OUTPOST

a. The squad may serve as part of the combat outpost. The combat outpost will normally be located from 1,000 to 2,400 meters forward of the FEBA. The exact location and composition of the combat outpost is established by higher commanders. The mission of the combat outpost is to give early warning and information of the enemy, and to delay, disorganize, and deceive him as to the true location of the battle area.

b. The combat outpost is organized as a series of outguards which vary in strength from a fire team to a reinforced platoon. The outguards organize on terrain which affords observation, long fields of fire, and close rifle protection for any supporting weapons. Routes of withdrawal are selected and reconnoitered and all men are fully informed of the withdrawal plan.

c. When no friendly troops are forward of the combat outpost, contact is maintained with the enemy by patrols. If the enemy approaches, all weapons open fire at long range and continuous and increasing fire is directed on him. As the enemy advance continues, he is brought under an increasingly heavier volume of fire. The platoon commander is kept informed of the situation.

d. The decision to withdraw is usually made by either the battalion commander or regimental commander of the frontline units. Routes of withdrawal are used which have been previously determined and reconnoitered. Upon withdrawal and passage through the forward friendly units, the squad will usually resume a role as part of a reserve unit.

7211. GENERAL OUTPOST

The general outpost is a comparatively strong security element and may be the first to offer organized resistance to the advance of the enemy. It is normally established and provided for by higher echelons, usually division. Its mission is to delay the attacker and deceive him as to the location of our main forces. The general outpost is usually located 6,000 meters forward of the FEBA. The rifle squad may be placed on the general outpost as a part of a larger unit. The actions of the squad on the general outpost will be similar to its role on the FEBA.

CHAPTER 8

PATROLLING

Section I. GENERAL CONSIDERATIONS

8101. GENERAL

a. Definition.--A patrol is a detachment of ground forces sent out by a larger unit for the purpose of gathering information or carrying out a destructive, harassing, or security mission.

b. Types of Patrols.--There are two general types of patrols: reconnaissance patrols and combat patrols.

(1) Reconnaissance Patrol.--Reconnaissance patrols collect information about the enemy, terrain, or resources. They rely on stealth, and fight only when necessary to accomplish the mission or to defend themselves. The squad and fire team are ideally suited for reconnaissance patrol missions.

(2) Combat Patrols.--A combat patrol is a fighting patrol. Combat patrols are assigned missions which normally require them to engage in combat with the enemy. They are stronger and more heavily armed than reconnaissance patrols. They gather information as a secondary mission.

8102. SECURITY AND PATROLLING TECHNIQUES

a. Individual Movement.--Individual movement may mean the difference between success or failure of a patrol's mission. Preparation of the individual and his equipment and methods of movement are as follows:

(1) Preparation of the Individual and His Equipment

(a) Camouflage face, hands, neck, and equipment.

(b) Tape identification tags to the chain.

(c) Tape weapon swivels and keepers.

(d) Pad or tape loose items of equipment.

(e) If helmet is not required, wear a soft cap which has a less distinctive outline.

(2) Movement, General

(a) Move by bounds, halt, listen, observe, then move again.

(b) Select the next spot before leaving the concealment of one position. Observe the area carefully for enemy activity, then select the best available covered and concealed route to the new location.

(c) Remain in position and observe briefly if birds or animals are alarmed. Their flight or movement may attract the enemy's attention.

(d) Take advantage of distraction caused by noises.

(e) Move across roads and trails where there is the most cover and concealment; cross quickly and quietly.

(f) Follow the furrows as much as possible when crawling along a plowed field.

b. Action Under Flares

(1) If caught in the open by an overhead flare, the scout or patrol immediately hits the ground. Since the burst of light is temporarily blinding, the scout or patrol may not have been seen. If the flare is heard being fired, troops in the open get down before it bursts. Movement is resumed as soon as the flare burns out.

(2) If troops are caught in the light of a ground flare, they move out of the lighted area quickly and quietly.

(3) If troops are caught by a flare when crossing an obstacle, such as barbed wire, they crouch low and remain quiet until the flare burns out.

c. Technique of Observing.--The mission of a reconnaissance patrol or of a scout includes observation. "Observe" means to watch, scrutinize, or examine. It is the duty of the scout to locate himself in positions where he can observe enemy activity and where he can examine the nature of enemy units and movement.

(1) Selection of Observation Posts.--Depending upon the mission, any number of observation posts may be occupied during a patrol. The scout must study available maps and aerial photos prior to going on patrol in order to become familiar with the terrain. He uses these aids to select patrol routes and tentative observation posts.

(a) An observation post has certain desirable characteristics:

1 Provide maximum observation of the desired area.

2 Offer cover and concealment for the observation post.

3 Have concealed routes to and from the observation post.

(b) An observation post is carefully studied prior to occupation to ensure that it is not occupied by the enemy.

(c) The position is disturbed as little as possible and is thoroughly policed before leaving to ensure that nothing is left behind that would indicate its use as an observation post.

(2) Methods of Searching Terrain.--Certain techniques are employed to search terrain effectively. The techniques used by day differ from those used by night. A record of all observations is maintained, indicating what, where, and when. The duty of a reconnaissance scout is to report what he sees, where he sees it, and the time of the sighting.

(a) By Day

1 Ground nearest the observer is searched first to ensure security.

2 If the mission calls for a reconnaissance of terrain, the ground is searched in strips of 50 meters or less. The scout slowly examines the ground from side to side, as from left to right, then the process should begin anew, from right to left, overlapping the area already searched. (See fig. 39.)

3 When binoculars are used, special care is taken to ensure against a telltale reflection from the lenses. Binoculars are not used continuously as eyestrain will result.

(b) By Night

1 When a person is trained to observe, move, and fight during darkness, he makes maximum use of his senses of hearing,

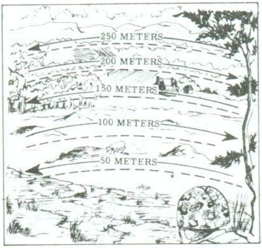


Figure 39.--Searching Terrain.

touch, and even smell, in addition to his night vision.

2 Terrain is most effectively searched by shifting the eye with short, jerky movements. If the scout believes that he sees an object of interest, he then scans the object or area. Scanning is using offset vision to observe an area or object. The eyes are moved in short, irregular movements over and around the target.

3 An object viewed against the sky from a position close to the ground can be more clearly seen than from any other position.

4 Low-powered binoculars are recommended for night observation.

5 If it becomes necessary to use a light for reading, or exposure occurs for any other reason, night vision can be preserved by wearing close-fitting red goggles.

6 Exposure to very bright light during the day for extended periods of time, such as on a sandy beach or in snow, tends to reduce night vision for an appreciable length of time.

7 When observing in darkness, one must expect periodic "blackouts" of night vision which are due to simple fatigue. This should be no cause for alarm, since night vision quickly returns after the eyes are blinked a few times.

d. Use of Map and Land Navigation.--Members of a patrol must be able to determine exact locations during the movement of the patrol.

(1) Location.--To determine your location on the map and on the ground:

(a) Orient the map to north.

(b) Inspect the surrounding area on the ground for distinct terrain features.

(c) Inspect the map for an area having the same type features in the same relative positions as those observed on the ground.

(d) By comparing the map to the ground and using a process of elimination, isolate the terrain feature upon which you are located.

(2) Land Navigation.--Land

navigation is movement between two points where an individual, using terrain features to guide upon, knows his map and ground location throughout the movement. Two basic rules must always be applied. Begin from a known location on both the map and the ground. Then, orient the map to the ground and keep it oriented during the movement. The following steps outline the technique:

(a) Through a map study of the terrain, determine the most practical route to the destination; select terrain features along this route to guide on during movement.

(b) Determine the general direction of movement.

(c) Begin movement, considering the following factors:

1 Horizontal distance between terrain features along the route.

2 Vertical distance between terrain features along the route.

3 Confirm your location at selected terrain features along the route.

(d) Upon arrival at the final destination, confirm location by a detailed comparative analysis between the ground position and the plotted map position.

(3) Metric Conversions.--To assist patrol leaders and members of the patrol in determining distances, the following rapid method of converting yards to meters and meters to yards can be used.

(a) To convert yards to meters, divide yards by 100; multiply by 8.5 and subtract from the starting yardage. Example: 600 yards ÷ 100 = 6, 6 x 8.5 = 51, 600 - 51 = 549 meters.

(b) To convert meters to yards, multiply meters by 11 and divide by 10. Example: 600 meters x 11 = 6600, 6600 ÷ 10 = 660 yards.

Section II. PATROL ORGANIZATION

8201. GENERAL

Organization is a two-step process: general organization and special organization.

8202. GENERAL ORGANIZATION

a. General.--The patrol leader establishes the patrol headquarters and the elements required to accomplish the mission.

(1) Patrol Headquarters.--Patrol headquarters is composed of the patrol leader and the personnel providing support for the entire patrol, such as forward observer, corpsman, and radio operator.

(2) Elements.--Elements are the major subdivisions of the reconnaissance and combat patrols.

b. Reconnaissance Patrol.--A reconnaissance patrol is organized into two elements:

(1) Reconnaissance element which reconnoiters or maintains surveillance over the objective.

(2) Security element which secures the objective rallying point, gives early warning of enemy approach, and protects the reconnaissance element.

c. Combat Patrol.--A combat patrol is organized into the following elements:

(1) Assault element which engages

the enemy at the objective by fire and maneuver.

(2) Security element which secures the objective rallying point and isolates the objective.

(3) Support element which provides supporting fires.

8203. SPECIAL ORGANIZATION

a. Special organization is the further subdivision of patrol elements into teams. These are required to perform essential tasks.

b. Reconnaissance and combat patrol elements are subdivided into corresponding teams as follows:

(1) Reconnaissance Element
- (a) Reconnaissance teams.
- (b) Combination of reconnaissance and security teams.

(2) Assault Element
- (a) Assault teams.
- (b) Support teams.

(3) Support Element.--A support element is organized when two or more support teams are utilized.

(4) Security Element.--Security teams are organized as needed.

c. Scout dog teams are part of the security element. Special purpose teams, such as demolition teams, prisoner teams, and search teams, are part of the assault element or operate directly under the patrol leader.

8204. SUMMARY

Organize the patrol to ensure that each individual, team, and element is assigned to a specific task, but keep in mind the need for individual teams and elements to know all tasks. This may not be possible for certain specialist tasks such as demolitions; however, the patrol leader must plan for maximum flexibility to take care of any emergency.

Section III. PLANNING AND PREPARING THE PATROL

8301. RECEIPT OF THE MISSION

a. General.--The patrol leader is issued an informal briefing (patrol of a routine nature) or a standard operation order (non-routine patrols) which provides all instructions, information, and guidance need to plan, prepare for, and accomplish the mission. The operation order follows the format and sequence as shown in paragraph 1305.

b. Control Measures.--The person ordering the patrol is limited in controlling a patrol and influencing its actions after it has departed. The necessary degree of control and influence is planned and included in the patrol order.

(1) Time of departure may be stated in general terms, such as "Leave after dark," or "Leave before daylight." A specific time of departure may be given to prevent congestion in an area, or to reduce possibility of contact between patrols, and to provide strict control.

(2) Time of return is usually stated in general terms, but it may be specific. Information secured by a reconnaissance patrol may lose its value if not received by a certain time, or future operations may hinge on the results of a combat patrol.

(3) Checkpoints are designated locations on the ground over or near which a patrol must pass. A report is made upon reaching a checkpoint. Checkpoints indicate the location of the patrol at the time the

report is submitted.

(4) General routes may be defined through checkpoints. The exact route is seldom prescribed, except in route reconnaissance or when very close control of movement is desired.

(5) The communication plan specifies reports to be made and methods of transmission. Radio is usually the best means, but field wire may be suitable in some situations when the distance is short.

(a) Simple prearranged codes and code words are used to reduce transmission time and decrease the possibility of compromising the mission.

(b) Pyrotechnics (flares or smoke) may also be used, but they increase the possibility of detection.

c. Receiving the Order.--The patrol leader listens carefully to the operation order or briefing and makes notes for later use. After receiving the order, he asks questions on points which are not clear to him.

8302. PATROL STEPS

The sequence of the patrol steps (troop leading procedures) may vary according to such factors as availability of personnel for coordination, times at which reconnaissance can be made, and the extent of coordination made by the commander. The normal sequence is as follows:

a. Study the mission.

b. Plan use of time.

c. Study terrain and situation.

d. Organize the patrol.

e. Select men, weapons, and equipment.

f. Issue the warning order.

g. Coordinate (continuous throughout).

h. Make reconnaissance.

i. Complete detailed plans.

j. Issue patrol order.

k. Supervise (at all times), inspect, rehearse, and reinspect.

l. Execute the mission.

8303. STUDY THE MISSION

The patrol leader carefully studies the mission. Through this, and study of the terrain and situation, he identifies the essential tasks to be accomplished in executing the mission. These essential tasks become missions of the patrol's elements and teams for which organization, personnel, and equipment must be considered.

8304. PLAN USE OF TIME

When the patrol order is completed, the patrol leader mentally outlines everything that must be done before departing the area and allots time for each action. He should start with the scheduled time of departure on the mission and work backward. His time schedule is planned around specified times, such as time of departure or time to make reconnaissance. An example of a patrol leader's planned time schedule would possibly be as follows:

0200- - Return friendly area.
2330-0200 - Movement en route.
2300-2330 - Accomplish mission, reorganize.
2230-2300 - Leaders' recon.
2000-2230 - Movement en route.
2000- - Depart friendly area.
1945-2000 - Movement to departure area.
1930-1945 - Final inspection.
1845-1930 - Night rehearsals.
1800-1845 - Day rehearsals.
1745-1800 - Inspection.
1700-1745 - Supper meal.
1630-1700 - Issue patrol order.
1530-1630 - Complete detailed plans.
1430-1530 - Make reconnaissance.
1415-1430 - Issue warning order.
1330-1415 - Preliminary planning.
- Coordinate.
- Select men, weapons, equipment.
- Organize the patrol.
- Study terrain and situation.
- Plan use of time.
- Study the mission.
-1330 - Operation order received.

8305. STUDY TERRAIN AND SITUATION

a. The patrol leader makes a thorough map study of the terrain over which the patrol will operate. The terrain in the vicinity of the objective influences the patrol organization, the manner in which the patrol leader will conduct his reconnaissance, and the direction of the assault. The terrain over which the patrol will pass en route to the objective also influences the size, organization, and equipment of the patrol.

b. The patrol leader studies the friendly and enemy situations and determines the effect that troop dispositions, strengths, and capabilities may have on his mission. These factors influence the patrol's route, size, organization, weapons, and equipment.

8306. ORGANIZE THE PATROL

Organization consists of determining the elements and teams required to accomplish essential tasks. Organization is a two-step process: general organization and special organization.

8307. SELECT MEN, WEAPONS, AND EQUIPMENT

a. Patrol Members.--Selection is usually restricted to the unit commanded by the patrol leader. The patrol leader maintains fire team and squad integrity whenever practicable.

b. Weapons.--The patrol leader should ask himself this question, "What do I need to do the job?" He weighs the desirability of some weapons against the difficulty of carrying them.

c. Equipment.--There are five general

purposes or areas for which the patrol leader will choose equipment:

(1) In the Objective Area.--This is the equipment with which the patrol accomplishes the mission. It includes such item as ammunition, demolitions, binoculars, and flashlights.

(2) En Route.--This equipment assists or enables the patrol to reach its objective. It includes such items as maps, binoculars, compasses, boats, stream-crossing ropes, flashlights, ammunition, and wire cutters.

(3) Control.--Whistles, pyrotechnics, radios, flashlights, and luminous tape assist in control en route and during actions at the objective.

(4) Water and Food.--Every man normally carries a canteen of water. On a long patrol, each man may carry two or more canteens. Rations are usually carried if the patrol is to be gone during a mealtime.

(5) Routine Equipment.--This is the equipment carried by all patrols, or which is common to all patrol members. It includes the uniform to be worn and individual clothing and equipment to be carried.

8308. ISSUE WARNING ORDER

As soon as possible, the patrol leader issues a warning order to all patrol members. If circumstances make it impractical to issue the warning order to all members, it is issued to the leaders of each element. The minimum items of information for inclusion in the warning order are listed below. A convenient

PATROL WARNING ORDER

1. A brief statement of the situation.
2. Mission of the patrol.
3. General instructions:
    - a. General and special organization.
    - b. Uniform and equipment common to all.
    - c. Weapons, ammunition, and equipment.
    - d. Chain of command.
    - e. A time schedule for the patrol's guidance.
    - f. Time, place, uniform, and equipment for receiving the patrol order.
    - g. Times and places for inspections and rehearsals.
4. Specific instructions:
    - a. To subordinate leaders.
    - b. To special purpose teams or key individuals.

Figure 40.-- Patrol Leader's Warning Order

format for arranging the information is shown in figure 40.

a. Situation.--A brief statement of the enemy and friendly situation.

b. Mission of the Patrol.--The patrol leader gives the mission exactly as he received it.

c. General Instructions

(1) General and Special Organization.--General tasks are assigned to elements and teams. Specific details of tasks are given in the patrol leader's order.

(2) Uniform and Equipment Common to All.--The patrol leader specifies camouflage measures to be taken and the identification to be carried.

(3) Weapons, Ammunition, and Equipment.--These are assigned to elements and teams. Subordinate leaders make further assignments to teams and individuals.

(4) Chain of Command.--In a patrol composed of personnel from different units, the patrol leader establishes a chain of command.

(5) Time Schedule for the Patrol's Guidance.--The time schedule includes mealtimes and the time, place, and uniform for receiving the patrol leader's order.

(6) Time, Place, Uniform, and Equipment for Receiving the Patrol Order.--When inspections and rehearsals are to be conducted immediately following the patrol order, the uniform and equipment for receiving the order will be the same as that for the patrol.

(7) Times and Places for Inspections and Rehearsals.--Complete uniform and all equipment will be worn and/or carried for all inspections and rehearsals.

d. Specific Instructions

(1) To Subordinate Leaders

(a) Obtaining, checking, and distributing rations, water, weapons, ammunition, and equipment.

(b) Preparing patrol members for the mission.

(c) Initiating and supervising other activities to be accomplished, to include, but not be limited to, practice of stream crossing procedures, if required.

(d) Reconnaissance, coordination, inspections, and rehearsals.

(2) To Special Purpose Teams or Key Individuals.--Preparation of key individuals to include map study by point and navigators, etc.

8309. COORDINATE (CONTINUOUS THROUGHOUT)

The patrol leader effects all possible coordination before leaving the place from which he received the patrol order. Examples of such coordination are:

a. Movement in Friendly Areas.--Units in whose areas the patrol is to operate are informed so the patrol will not be endangered or unnecessarily restricted.

b. Departure and Reentry of Friendly Areas.--Guides may be necessary, especially if the patrol is to pass friendly obstacles such as mines or wire.

c. Fire Support.--Fire support can assist the patrol in the following ways:

(1) Destroy the enemy.

(2) Deceive the enemy as to the patrol's actual location, direction of movement, or intentions.

(3) Deny the enemy use of key terrain or lines of communications which could be utilized to oppose the patrol.

(4) Defend the patrol against attack en route, at danger areas, and at the

the objective.

(5) Direct the patrol en route by prearranged fires along the patrol's route to facilitate determination of the patrol's position.

(6) Detect the enemy by firing on likely positions (reconnaissance by fire).

d. Coordinate With Other Patrols.--Determine from appropriate sources if there will be other friendly patrols operating in the area.

e. Logistic Support.--Arrange with appropriate supporting units for supply of water, ammunition, binoculars, and special equipment.

f. Intelligence Information.--Check prior to issuing patrol order and again prior to departing on patrol for information on:

(1) Area of the patrol route/alternate route.
(2) Mine/boobytrap density.
(3) Prior patrol debrief reports.
(4) Enemy pattern of operation.

8310. MAKE RECONNISSANCE

The patrol leader makes a reconnaissance while the members prepare for the patrol. A visual reconnaissance provides information that cannot be obtained from a map.

8311. COMPLETE DETAILED PLANS

The patrol leader is now ready to plan his mission in detail. In effect, he is arriving at paragraph 3, Execution; paragraph 4, Administration and Logistics; and paragraph 5, Command and Signal, of his patrol order.

a. Specific Duties of Elements, Teams, and Individuals.--The warning order assigned tasks to elements, teams, and individuals. The patrol leader now assigns specific duties to each.

b. Route and Alternate Route.--Selection of the route for a patrol requires careful consideration and should be a result of the study of maps, aerial photographs, consultation with men who have been over the area, and actual terrain reconnaissance. The best route is one that affords concealment from the enemy, where little or no enemy opposition is expected, and yet presents a minimum of obstacles to the patrol. Night patrol routes usually avoid thick undergrowth, dense woods, and ravines. The route of return should be different from that used on departure. The patrol route is pointed out to the patrol members by:

(1) Indicating the route on either an overlay or map.

(2) Designation of objectives and checkpoints.

c. Conduct of the Patrol.--The patrol leader plans for every foreseeable action that may be required of the patrol.

(1) Formation and order of movement.

(2) Departure from and reentry to friendly areas.

(3) Rallying points and actions at

rallying points.

(4) Actions on enemy contact.
(5) Actions at danger areas.
(6) Actions at objective.

d. Arms and Ammunition.--The patrol leader checks to see if the arms and ammunition specified in the warning order have been obtained.

e. Uniform and Equipment.--The patrol leader checks to see if all required equipment was available and was drawn.

f. Wounded and Prisoners.--If there is not a unit SOP for handling wounded and prisoners, the patrol order includes these instructions.

g. Signals.--Signals to be used within the patrol are planned. These include arm-and-hand signals, audio signals, pyrotechnic signals, and radio call signs.

h. Communications With Higher Headquarters.--The patrol leader includes all essential details of communication: call signs, frequencies, time of reporting, special code words, and security requirements.

i. Challenge and Password.--In addition to the current challenge and password, the patrol leader plans for a challenge and password to be used within the patrol and outside of friendly areas.

j. Location of Leaders.--The patrol leader plans his position where he can best control the formation, usually in the forward one-third of the formation. The assistant patrol leader is placed where he can best assist in control during movement, normally in the rear of the patrol. At the objective, the assistant patrol leader is positioned so he can readily take command if the patrol leader becomes a casualty.

8312. ISSUE PATROL ORDER

The patrol leader issues his order in a clear, concise, and forceful manner. He follows the standard operation order format. (See fig. 41.) To ensure a satisfactory order, there are four keys to success:

a. Ensure that all members of the patrol are present.

b. Precede the order with an orientation.

c. Hold all questions until the order is completed.

d. Use aids to enhance understanding on the part of the patrol members.

(1) Patrol members should be directed to help prepare visual aids.
(2) C-ration sleeves, the back of a map, or chalk on a poncho are a few of the materials available.
(3) Visual aids are used to explain many of the specific details in coordinating instructions such as:
(a) Routes.

PATROL ORDER

1. SITUATION (As it affects the patrol.)
    - a. Enemy forces: Weather, terrain, identification, location, activity, strength.
    - b. Friendly forces: Mission of next higher unit, location and planned actions of units on right and left, fire support available for patrol, missions and routes of other patrols.
    - c. Attachments and detachments.
2. MISSION (What the patrol is going to accomplish and the location or area in which it is to be done.)
3. EXECUTION
    - a. Concept of operation--the overall plan--and missions of elements, teams, and individuals in the objective area.
    - b. Other missions, not in the objective area, for elements, teams, and individuals. Included are such tasks as navigation, security during movement, and security at halts.
    - c. Coordinating Instructions
        - (1) Times of departure and return.
        - (2) Primary and alternate routes.
        - (3) Departure and reentry of friendly areas.
        - (4) Organization for movement.
        - (5) Actions at danger areas.
        - (6) Actions on enemy contact.
        - (7) Rallying points and actions at rallying points.
        - (8) Actions in objective area.
        - (9) Debriefing.
        - (10) Other actions.
        - (11) Rehearsals and inspections.
4. ADMINISTRATIVE AND LOGISTICS
    - a. Rations.
    - b. Arms and ammunition.
    - c. Uniform and equipment (state which members will carry and use).
    - d. Method of handling wounded and prisoners.
5. COMMAND AND SIGNAL
    - a. Signal
        - (1) Signals to be used within the patrol.
        - (2) Communications with higher headquarters--radio call signs, primary and alternate frequencies, times to report, and special code to be used.
        - (3) Challenge and password.
    - b. Command
        - (1) Chain of command.
        - (2) Locations of leaders at various times--during movement, at danger areas, at the objective.

Figure 41.--Patrol Leader's Order.

(b) Organization for movement.
(c) Actions at danger areas.
(d) Actions upon enemy contact.
(e) Actions at the objective.

e. Conclude the order with a time check.

8313. SUPERVISE (AT ALL TIMES), INSPECT, REHEARSE, AND REINSPECT

Inspections and rehearsals are conducted even though the patrol leader and patrol members are well experienced in patrolling.

a. Inspections determine the state of readiness, both physical and mental.

(1) Inspect before rehearsals to ensure completeness and correctness of uniform and equipment. The patrol leader questions the men to ensure each knows:

(a) The mission of the patrol.

(b) What each member is to do and when he is to do it.

(c) Challenges and passwords, codes, radio call signs, frequencies, reporting times, and any other pertinent information.

(2) The patrol leader should reinspect just before departure to ensure all equipment is still in working order, nothing is left behind, and the men understand the mission.

b. Rehearsals ensure the operational proficiency of the patrol. Plans are checked and necessary changes made. The patrol leader verifies the suitability of equipment. It is through rehearsals that patrol members become thoroughly familiar with the actions they are to take during the patrol. If the patrol is to operate at night, conduct both day and night rehearsals. Use terrain similar to that over which the patrol will operate. Continue rehearsals until the patrol is thoroughly familiar with the planned operation.

8314. EXECUTE THE MISSION

Execute the mission is the last patrol step. See section IV, chapter 8, for details.

Section IV. CONDUCT OF PATROLS

8401. FORMATION AND ORDER OF MOVEMENT

a. The patrol leader must determine the formation(s) in which the patrol will move to the objectve area. He also determines the location of elements, teams, and individuals in the formation(s). This is called organization for movement.

b. The squad and fire team formations discussed and illustrated in chapter 3, section I, are adaptable to a patrol of any size. The patrol may change from one formation to another as the situation requires.

c. The most important consideration in organization for movement is the action to be taken if the patrol makes contact with the enemy. As far as practicable, the patrol is organized to maintain element and team integrity. This helps in control, security, employment at the objective, and any other contact with the enemy.

8402. DEPARTURE AND REENTRY IN FRIENDLY AREA(S)

a. Higher authority coordinates with friendly units whose areas the patrol will operate. In some instances, all arrangements for departure and reentry are made. However, the patrol leader must contact positions near or through which he will pass and coordinate his movements in departing and reentering the area. Positions where coordination may be necessary are: company CP and OP, platoon CP and OP, and the last position through or near which the patrol will pass.

b. The patrol moves cautiously when approaching positions in friendly areas. The patrol leader halts the patrol near the position, goes forward, and contacts the position. He takes at least one man with him. The patrol leader passes along enough basic information to personnel at the position so they may assist the patrol (size of the patrol, general route, and expected time of return). The specific mission and exact route are not given personnel in the most forward positions. The patrol leader requests the latest information on the enemy, terrain, and known obstacles. He checks for communication facilities, fire support they can provide or obtain, and any other assistance they can give. The patrol leader checks to see that frontline troops through whose position he will pass know the challenge and password. He determines if they will be manning the position when the patrol returns. If not, he asks them to brief their relief on the patrol's activity. He requests a guide to take the patrol to the next position. Each position notifies the next position of the patrol's approach if communication facilities permit. The patrol leader requests a guide if the patrol must pass through minefields or wire.

c. The patrol leader follows the same general procedure for reentering friendly areas except that he counts each member of the patrol as he enters friendly lines. If anyone is missing, the patrol leader alerts all friendly positions in the area to be on the lookout for a missing patrol member.

8403. RALLYING POINTS

a. Explanation.--A rallying point is a place where a patrol can assemble and reorganize. It should provide cover and concealment, be defensible for at least a short time, and be easily recognized and known to all patrol members.

(1) All rallying points are termed tentative rallying points until they are reached, found to be suitable, and designated.

(2) When the patrol leader designates a rallying point, he halts the patrol and tells them, "This is a rallying point." Identifying features are pointed out. He ensures that the information is passed to all patrol members.

b. Types

(1) Initial Rallying Point.--This is a point within friendly areas where the patrol can rally if it becomes dispersed before departing friendly areas or before reaching the first rallying point en route. The initial rallying point must be coordinated with the commander in whose area it lies.

(2) Rallying Points En Route.--These are rallying points between friendly areas and the objective.

(3) Objective Rallying Point.--A rallying point near the objective from which the patrol leader conducts his leader's reconnaissance, final preparations can be conducted

and it can be used as a release point from which elements and teams move into position. It can also be used as a point at which the patrol reassembles and reorganizes after accomplishing its mission.

c. Use of Rallying Points

(1) The initial rallying point and rallying points en route are selected to enable the patrol to reassemble if it is unavoidably dispersed. A patrol disperses only on order from the patrol leader. The patrol leader must make every effort to maintain control to avoid using these rallying points.

(2) The patrol reassembles at the objective rallying point after the various elements and teams have separated to perform their assigned missions.

(3) If dispersed within the friendly area, patrol members assemble at the initial rallying point.

(4) If dispersed between the friendly area and the first rallying point en route, patrol members move to the initial rallying point or to the first rallying point en route. The patrol leader considers the following and then specifies in his order which rallying point will be used:

(a) Return to the initial rallying point may be extremely difficult due to mines, wire, or the enemy situation.

(b) Forward movement to the first rallying point en route may also be difficult, impracticable, or impossible. The point selected may be mined or occupied by the enemy. The cause of dispersal, such as enemy contact, may prevent forward movement.

(5) If dispersed between rallying points en route, patrol members return to the last rallying point.

d. Actions at Rallying Points.--The patrol leader plans the actions to be taken at rallying points and instructs the patrol accordingly. At the initial rallying point and rallying points en route, he provides for the continuation of the patrol as long as there is a reasonable chance to accomplish the mission. To cover the possibility of the patrol leader's absence, he plans for:

(1) The patrol to wait until a designated number of men have arrived and then proceed with the mission under the senior man present. This plan could be used for reconnaissance patrol where one or two men may be able to accomplish the mission.

(2) The patrol to wait for a specified period, after which the senior man present will determine actions to be taken based on personnel and equipment present. This could be the plan when a minimum number of men or certain items of equipment, or both, are essential to accomplish the mission.

8404. ACTIONS UPON CONTACT WITH ENEMY

a. Types of contact with the enemy are: chance contact and ambush.

(1) Chance Contact.--Chance contact is an accidental encounter. The enemy does not expect the patrol and is not specifically prepared to deal with it.

(2) Ambush.--Ambush is a surprise

attack from a concealed enemy position.

b. In a chance meeting with the enemy, the patrol must break contact as quickly as possible and continue the mission.

c. If ambushed, the patrol must react quickly to overcome the enemy's advantage of surprise and initial fire superiority. The most important immediate counteraction is for all available personnel to return fire as rapidly as possible and attempt to get out of the killing zone. If the strength of the patrol is adequate, envelopment is usually the most desirable method of attack. Fire and movement and/or fire and maneuver can also be used to break contact. Each individual, team, or element covers the other by fire until contact is broken by all. Immediate action (IA) drills are planned and rehearsed. The underlying principles of each IA drill are simplicity, aggressiveness, and speed.

8405. ACTIONS AT DANGER AREAS

a. A danger area is any place where the patrol is vulnerable to enemy observation or fire (open areas, roads, trails, and obstacles such as barbed wire, minefields, rivers and streams, and lakes). Any known or suspected enemy position the patrol must pass is also a danger area. The patrol leader plans for crossing each danger area and includes these plans in his order.

b. If a patrol is entered into an enemy area by helicopter, the landing site should be treated as a danger area and no attempt should be made to secure the landing site. The chance of contact with the enemy decreases as you move away from the site. Get off the landing site as soon as possible.

8406. ACTIONS AT THE OBJECTIVE

Actions at the objective are the most important of all phases of the patrol. (See pars. 8505, 8602, 8603, 8604, and 8605.)

8407. CONTROL

The success at the objective depends largely on the control the patrol leader is able to exercise over the patrol. He must be able to maneuver his men as the situation requires; to start, shift, or stop their fire as needed.

8408. NAVIGATION

One or more men are assigned to be navigators for the patrol. Their functions may be as compassmen to assist the patrol leader in maintaining direction or as pacers to keep count of the pace between checkpoints. The use of a compassman and pacer will enable the patrol leader to keep from becoming a full time navigator so that he can accomplish his other duties.

8409. SECURITY

The organization for movement provides some security, but the patrol leader takes additional steps to ensure complete security.

a. Day Patrols

(1) The patrol is dispersed consistent with control, visibility, and other factors.

(2) Security personnel are assigned to the point, flanks, and rear.

(3) The patrol is careful not to silhouette itself when moving along high ground.

(4) It avoids exposed areas and takes advantage of available cover and concealment.

(5) The patrol avoids known or suspected enemy locations and built-up areas.

(6) Maintain an even pace to avoid rushing and running; sudden movements attract attention.

b. Night Patrols.--Use the same technique as for a day patrol, modifying them as necessary.

(1) The men are kept closer together.

(2) Silent movement is emphasized. The battlefield is comparatively quiet at night and sounds carry further.

(3) Speed of movement is reduced which reduces the danger of men becoming separated from the patrol.

c. Avoiding Ambush.--Proper security and reconnaissance is the best guard against ambush. Certain areas are more suitable for an ambush than others, such as roads and trails, narrow gullies, villages, and open areas. The patrol approaches these areas with caution. The patrol leader halts the patrol and studies the area. Routes used by other patrols are avoided. For action taken if ambushed, see paragraph 8404.

d. Halts.--The patrol leader halts the patrol occasionally to observe and listen for enemy activity. This is called a security halt. Upon signal, every man freezes in place, maintains absolute quiet, looks, and listens. This is done upon reaching a danger area and periodically throughout movement en route.

e. Security to the Front.--This is provided by the point, which may consist of one man in a small reconnaissance patrol. A combat patrol (usually larger) normally uses two or more men.

8410. USE OF RADIOS

Use radios sparingly. Depressing the transmission button is sometimes sufficient to relay certain information. When transmitting close to the enemy, the hands are cupped over the mouthpiece of the handset and a low voice is used.

8411. INFILTRATION

At times the disposition of enemy forces prevents a patrol from entering the enemy area as a unit; however, individuals or small groups may infiltrate without being discovered. (See sec. VII, chap. 6.)

8412. INFORMATION AND REPORTS

a. General.--The leader of a patrol should have all members of his patrol signal or report to him immediately any information they obtain. These reports should not be restricted to information about the enemy, but should include information about the terrain, such as newly discovered roads, trails, swamps, and streams.

b. Sending Information.--The patrol leader is informed by the person dispatching the patrol if messages are to be submitted and what means of communication are to be used. Messages, oral or written, must be accurate, clear, and complete. Every message should answer the questions what, where, and when.

(1) Oral Messages.--A patrol leader sending an oral message should make it simple, brief, and avoid using numbers and names. He should have the messenger repeat the message to him before leaving.

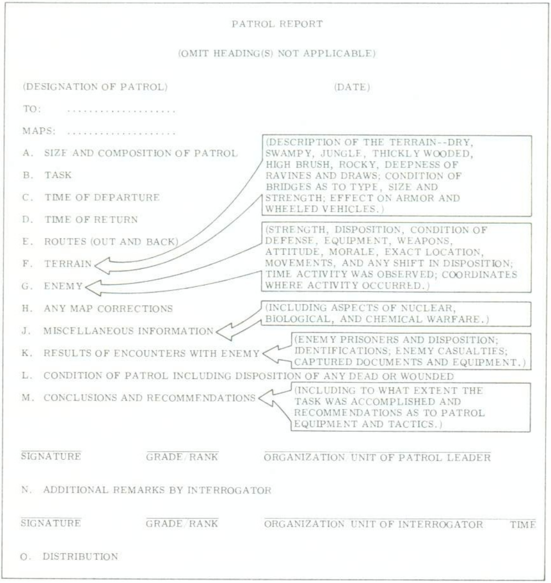
(2) Written Messages.--Information about the enemy should include: strength, armament, actions, direction of movement, position of observation, and the time the enemy was observed. Use of an overlay or sketch may often simplify the message.

(3) Use of Messengers.--If the message is of great importance and the patrol is in enemy territory, two messengers, each taking a different route, are dispatched. A messenger is given exact instructions as to where the message is to be delivered and the route to be taken. Any information he obtains along the route should be reported at the time the message is delivered. If in danger of capture, the messenger immediately destroys the message.

(4) Use of Radio and Other Means.--A definite schedule for "checking in" on the radio must be arranged before departure of the patrol. The patrol leader takes every precaution to ensure that codes and copies of messages do not fall into enemy hands. Reporting will be done by referring to standard report format to ensure all necessary information is reported (who, what, when, where, why, how). Before transmitting, ask yourself, "Can the enemy use this information?" If the answer is yes, rewrite or encode. Code words to report departures and checkpoints may be employed. If a close reconnaissance of enemy lines is required, the radio and operator should be left in a concealed location. Once a report is sent by radio, the patrol should leave the area immediately to avoid the possibility of detection by enemy locating devices. Pyrotechnics (flares, colored smoke, grenades, etc.), air-ground panels, and telephones may be provided for the use of patrols for reporting information.

c. Captured Documents.--Every patrol should search enemy dead and installations for papers, maps, messages, orders, diaries, and codes. They are collected by the leader and turned in when he makes his report. The documents should be marked as to time and place of capture.

d. Patrol Report.--Every patrol leader makes a report when the patrol returns. If the situation permits, the report is written and supported by overlays or sketches. The patrol leader's report should be a complete



PATROL REPORT

(OMIT HEADING(S) NOT APPLICABLE)

(DESIGNATION OF PATROL) (DATE)

TO: ....

MAPS: ....

A. SIZE AND COMPOSITION OF PATROL

B. TASK

C. TIME OF DEPARTURE

D. TIME OF RETURN

E. ROUTES (OUT AND BACK)

F. TERRAIN

(DESCRIPTION OF THE TERRAIN--DRY, SWAMPY, JUNGLE, THICKLY WOODED, HIGH BRUSH, ROCKY, DEEPNESS OF RAVINES AND DRAWS; CONDITION OF BRIDGES AS TO TYPE, SIZE AND STRENGTH; EFFECT ON ARMOR AND WHEELED VEHICLES.)

G. ENEMY

(STRENGTH, DISPOSITION, CONDITION OF DEFENSE, EQUIPMENT, WEAPONS, ATTITUDE, MORALE, EXACT LOCATION, MOVEMENTS, AND ANY SHIFT IN DISPOSITION; TIME ACTIVITY WAS OBSERVED; COORDINATES WHERE ACTIVITY OCCURRED.)

H. ANY MAP CORRECTIONS

J. MISCELLANEOUS INFORMATION

(INCLUDING ASPECTS OF NUCLEAR, BIOLOGICAL, AND CHEMICAL WARFARE.)

K. RESULTS OF ENCOUNTERS WITH ENEMY

(ENEMY PRISONERS AND DISPOSITION; IDENTIFICATIONS; ENEMY CASUALTIES; CAPTURED DOCUMENTS AND EQUIPMENT.)

L. CONDITION OF PATROL INCLUDING DISPOSITION OF ANY DEAD OR WOUNDED

M. CONCLUSIONS AND RECOMMENDATIONS

(INCLUDING TO WHAT EXTENT THE TASK WAS ACCOMPLISHED AND RECOMMENDATIONS AS TO PATROL EQUIPMENT AND TACTICS.)

SIGNATURE GRADE/RANK ORGANIZATION/UNIT OF PATROL LEADER

N. ADDITIONAL REMARKS BY INTERROGATOR

SIGNATURE GRADE/RANK ORGANIZATION/UNIT OF INTERROGATOR TIME

O. DISTRIBUTION

Figure 42.--Patrol Report

account of everything of importance observed or encountered by the patrol. (See fig. 42.)

e. Patrol Critique.--When the patrol has rested and been fed, the patrol leader should hold a critique. It is an excellent time to prepare for future patrols by going over lessons learned as a result of the patrol. The patrol leader should let the members of the patrol know what their mission accomplished.

Section V. RECONNAISSANCE PATROLS

8501. RECONNAISSANCE MISSIONS

a. General.--The commander must have accurate, timely information to assist him in making tactical decisions. Reconnaissance patrols are one of the most reliable means of obtaining this information.

b. Missions

(1) Some of the missions that may be assigned to a reconnaissance patrol are:

(a) Enemy--Does the enemy occupy a certain piece of terrain? What is his strength? How is he equipped? What is he doing?

(b) Terrain.--How deep are the streams? Are the banks too steep for vehicles? What is the condition of a bridge at a certain point? How suitable are the routes of approach?

(2) The missions mentioned are by no means all inclusive but are given as examples.

8502. ORGANIZATION OF RECONNAISSANCE PATROLS

A reconnaissance patrol is organized into a reconnaissance element and a security element. A patrol with a point reconnaissance mission is usually small, about fire team size. The reconnoitering element consists of the patrol leader and one or two men. A patrol with an area reconnaissance mission is usually larger. Several reconnaissance teams and several security teams may be required.

8503. RECONNAISSANCE PATROL EQUIPMENT

Patrol members are armed and equipped as dictated by the mission. At least one automatic weapon is usually carried to provide a degree of sustained firepower. The patrol should carry binoculars, wire cutters, compasses, watches, and adequate communication equipment. A day patrol should carry a camera. The type which develops and prints the picture at once is ideal for reconnaissance patrols. Pencils, small notebooks, and a message book with its messages blanks and overlay paper are carried.

8504. CONDUCT OF A RECONNAISSANCE PATROL

Reconnaissance patrols engage in combat only if it becomes necessary to accomplish their assigned mission or in order to protect themselves. In general, they avoid combat and accomplish their mission by sealth.

8505. RECONNAISSANCE PATROL ACTIONS AT THE OBJECTIVE

The patrol leader halts and conceals the patrol near the objective. This will usually be at the objective rallying point. The patrol leader then conducts his reconnaissance to pinpoint the objective and confirm his plan for positioning security teams and making the reconnaissance. He returns to the patrol and positions the security team. The objective is reconnoitered. When the reconnaissance is completed, the patrol leader assembles the patrol and tells each member what was seen and heard. Each contributes anything he may have observed. A preliminary report by radio is made, if possible. The patrol then returns and makes a full report.

Section VI. COMBAT PATROLS

8601. GENERAL

Combat patrols are assigned missions which usually require them to actively engage in combat. They are fighting patrols. Every combat patrol, no matter what its specific mission, has a secondary mission--that of gaining information about the enemy and terrain.

a. Missions.--Combat patrols perform a variety of missions, and derive their names from the specific missions they perform.

(1) Raid Patrols.--Raid patrols destroy or capture personnel or equipment, destroy installations, or liberate personnel.

(2) Security Patrols.--Security patrols detect infiltration by the enemy, destroy infiltrators, and protect against surprise and ambush.

(3) Contact Patrols.--Contact patrols establish and/or maintain contact with friendly or enemy forces.

(4) Economy of Force Patrols.--Economy of force patrols perform limited objective missions such as seizing and holding key terrain to allow maximum forces to be used elsewhere.

(5) Ambush Patrols.--Ambush patrols conduct ambushes of enemy patrols, carrying parties, foot columns, and vehicle convoys.

(6) Search and Attack Patrols.--Search and attack patrols are patrols with the general mission of seeking out and attacking, by harassment or destruction, targets of

opportunity.

b. Organization.--A combat patrol is organized into an assault element, a security element, and usually a separate patrol headquarters. A support element may be organized when appropriate. The special organization of the elements depends on the specific mission. (See par. 8202.)

c. Equipment.--In addition to binoculars, wire cutters, compasses, and other equipment generally common to all patrols, it usually carries a high proportion of automatic weapons. Communication equipment is very necessary. Success of the mission may depend on being able to call for supporting fires.

d. Conduct of a Combat Patrol.--A combat patrol, like a reconnaissance patrol, strives to reach its objective without being discovered. Its aim is to achieve surprise and strike rapidly, according to a detailed plan.

8602. RAID PATROLS

a. General.--A raid is a surprise attack on an enemy force or installation with the attacking force withdrawing after accomplishing its mission. Surprise, firepower, and violence of action are the keys to a successful raid.

(1) Surprise can be achieved by attacking:

(a) When the enemy is least prepared, as during periods of poor visibility such as darkness, rain, fog, or snow.

(b) From an unexpected direction. This could be accomplished by approaching through a swamp or other seemingly impassable terrain.

(2) Firepower is concentrated at critical points to achieve fire superiority.

(3) Violence of action is achieved by surprise, proper use of firepower, and extreme aggressive action by the attacking force.

b. Special Organization

(1) The special organization of the security element and the patrol headquarters is largely determined by the terrain, enemy situation, and attached personnel. The special organization of a support element is determined by the availability of suitable firing positions and the tasks the element is to accomplish.

(2) The special organization of the assault element is determined entirely by the mission.

(a) To destroy an installation or equipment, the assault element is organized into:

1 A support team (if suitable firing positions are available) to deliver neutralizing and supporting fires.

2 An assault team to overcome resistance and physically secure the objective.

3 One or more demolitions teams to set charges.

(b) To capture prisoners, liberate personnel, or seize equipment, one or more teams are specifically designated to perform these tasks.

(c) One or more teams may be designated to search dead, wounded, and positions for documents and equipment.

c. Raid Patrol Actions at the Objective

(1) The patrol leader halts the patrol at the objective rallying point. He establishes security and makes his reconnaissance, taking along appropriate subordinate leaders. The patrol leader returns to the patrol and confirms previous plans or announces any changes. Elements and teams are dispatched to their positions. Movements are arranged so all elements and teams reach their positions at about the same time.

(a) Security Element.--The teams of the security element move to positions to secure the objective rallying point, give early warning of enemy approach, block avenues of approach into the objective area, and prevent enemy escape from the objective area.

1 As the assault element moves into position, the security element informs the patrol leader of all enemy action, firing only if detected or on the patrol leader's order.

2 Once the assault element has begun its action, the security element prevents enemy movement into, or escape from, the objective area.

3 The security element covers the withdrawal of the assault element to the objective rallying point, withdrawing itself upon order or upon a prearranged signal.

(b) Assault Element.--The

assault element deploys far enough in advance to permit immediate assault if detected by the enemy on the objective. Each team uses maximum stealth in attempting to get into position without being detected. On command, or if detected and fired upon, the support team(s) opens fire to neutralize the objective, then ceases or shifts fire according to prearranged plans and signals. As supporting fires cease or shift, the assault team(s) assaults, seizes, and secures the objective. Demolition teams, search teams, and other teams are protected by the assault team(s). On order, the assault element withdraws to the objective rallying point.

(2) At the objective rallying point, the patrol leader quickly reorganizes the patrol and returns to friendly areas.

8603. SECURITY PATROLS

a. General.--Security patrols screen flanks, areas, and routes. In a static situation, they prevent the enemy from infiltrating the area, detect and destroy infiltrators, and prevent surprise attack. They protect a moving unit by screening the flanks, the areas through which the unit will pass, and the route over which the unit will pass.

b. Special Organization.--Special organization includes a support team to provide maximum flexibility in case of enemy contact. Organization of other teams depends on the known enemy situation and anticipated contact.

c. Equipment

(1) A security patrol is armed and equipped according to the known enemy situation and anticipated contact.

(2) Inasmuch as timely information is of great importance to higher headquarters, radios are carried by security patrols.

d. Actions at the Objective.--A series of objectives is selected covering the area in or over which the patrol is to move. Actions to be taken at each objective are planned. This is done in the same manner that actions at danger areas are planned. Plans are modified, if necessary, as each objective is secured.

8604. CONTACT PATROLS

a. General.--Contact patrols establish and/or maintain contact to the front, flanks, or rear by:

(1) Contacting friendly forces at designated points.

(2) Establishing contact with a friendly or enemy force when the definite location of the force is unknown.

(3) Maintaining contact with friendly or enemy forces.

b. Special Organization and Equipment. --Special organization and equipment depend on the known enemy situation and anticipated enemy contact.

(1) Contact patrols between adjacent units are usually small and relatively lightly armed.

(2) A patrol sent out to establish contact with an enemy force is organized, armed, and equipped to overcome resistance encountered by light screening forces.

(3) As in a security patrol, communications are important. Radios must be reliable over the entire distance covered.

c. Actions at the Objective.--The patrol leader selects a series of objectives, just as in a security patrol, and proceeds with the establishment or maintenance of contact as directed.

8605. ECONOMY OF FORCE PATROLS

a. General

(1) An economy of force patrol attacking a defended objective is organized, armed, and equipped in the same manner as a raid patrol. Its actions at the objective differ from those of a raid patrol in that it holds the objective instead of withdrawing.

(2) An economy of force patrol seizing an undefended objective, or establishing a position without opposition, proceeds to the designated location and organizes the position as required.

b. Missions

(1) To establish road blocks to retard enemy movement or prevent reinforcement.

(2) To seize key terrain to deny the enemy access to an area.

(3) To cover the withdrawal of a

force to deceive or delay the enemy.

(4) To act as a blocking force to allow a major effort to be made elsewhere without interference.

8606. AMBUSH

a. General

(1) An ambush is a surprise attack from a concealed position upon a moving or temporarily halted target. It is one of the oldest and most effective types of military operation.

(2) Ambush may include assault to close with and decisively engage the target, or the attack may be by fire only.

b. Purpose of Ambushes.--Ambushes are executed for the general purpose of reducing the enemy's overall combat effectiveness and for the specific purpose of destruction and harassment.

(1) Destruction is the primary purpose because loss of men killed or captured, and loss of equipment and supplies destroyed or captured, critically affects the enemy. The capture of equipment and supplies may assist our forces.

(2) Harassment is a secondary purpose. Though less apparent than physical damage, it is very important. Frequent ambushes force the enemy to divert men from other missions to guard convoys, troop movements, and carrying parties. When patrols fail to accomplish their mission because they are ambushed, the enemy is deprived of the

valuable contributions these patrols would make to his combat effort. A series of successful ambushes causes the enemy to be less aggressive and more defensive minded. His men become apprehensive and overly cautious. They seek to avoid night operations, are more subject to confusion and panic if ambushed, and in general, decline in effectiveness.

c. Types of Ambushes.--There are three types of ambush: point, area, and hasty.

(1) A point ambush is one where forces are deployed to support attack of a single killing zone.

(2) An area ambush is one where forces are deployed as multiple related point ambushes.

(3) A hasty ambush is an immediate action drill.

d. Other Descriptive Terms.--Ambush operations are further described and discussed in the following terms:

(1) Ambush Site.--The terrain on which a point ambush is established.

(2) Killing Zone.--The portion of an ambush site where fires are concentrated to trap, isolate, and destroy the target.

(3) Near Ambush.--A point ambush whose attack force is located within reasonable assaulting distance of the killing zone (50 meters is a guide figure). Close terrain, such as jungle and heavy woods, may require this positioning. It may also be appropriate in open terrain in a "rise from the ground" ambush.

(4) Far Ambush.--A point ambush whose attack force is located beyond reasonable assaulting distance of the killing zone (beyond 50 meters is a guide figure). This location may be appropriate in open terrain offering good fields of fire or when attack is by fire only (harassing ambush).

(5) Deliberate Ambush.--An ambush planned as a specific action against a specific target. Detailed information of the target is required: size, nature, organization, armament, equipment route of movement, and times the target will reach or pass certain points on its route. Deliberate ambushes are planned when:

(a) Reliable information is received on the intended movement of a specific force.

(b) Patrols, convoys, carrying parties, or similar forces establish patterns of size, time, and movement sufficient to permit detailed planning for their ambush.

(6) Ambush of Opportunity.--The ambush of a target of opportunity, often the action of a search and attack patrol.

(a) When available information does not permit the detailed planning required for deliberate ambush, an ambush of opportunity is planned. In this case, the ambush force plans and prepares for the ambush and attacks the first suitable target appearing.

(b) A search and attack patrol, before departing, plans and rehearses the ambush of the types of targets it may encounter. It establishes and executes ambushes as opportunities arise.

e. Fundamentals of a Successful Ambush.

--Surprise, coordinated fires, and control are the basic elements essential to successful ambush.

(1) Surprise.--Surprise must be achieved, else the attack is not an ambush; it is surprise that disguishes ambush from other forms of attack. It is surprise that allows the ambush force to seize and retain control of the situation. If complete surprise cannot be achieved, it must be so nearly complete that the target is not aware of the ambush until too late for effective reaction. Surprise is achieved by careful planning, preparation, and execution so that targets are attacked when, where, and in a manner for which they are least prepared.

(2) Coordinated Fires.--All weapons, including mines and demolitions, must be positioned, and all fires, including those of available artillery and mortars, must be coordinated to achieve the following results:

(a) Isolation of the killing zone to prevent escape or reinforcement.

(b) Surprise delivery of a large volume of high concentrated fires into the killing zone. These fires must inflict maximum damage so that, when desired, the target can be speedily assaulted and completely destroyed.

(3) Control.--Close control must be maintained during movement to, occupation of, and withdrawal from the ambush site.

(a) The ambush commander must effectively control all elements of the ambush force. Control is most critical at the time of approach of the target. Control measures must provide for:

1 Early warning of target approach.

2 Withholding of fire until the target has moved into the killing zone.

3 Opening fire at the proper time.

4 Initiation of appropriate action if the ambush is prematurely detected.

5 Lifting or shifting supporting fires when the attack includes assault of the target.

6 Timely and orderly withdrawal of the ambush force to an easily recognized rallying point.

(b) The men of the ambush force must control themselves so that the ambush is not compromised. They must exercise patience and self-discipline by remaining still and quiet while waiting for the target to appear. They have to forgo smoking, endure insect bites and thirst in silence, and resist the desire to sleep, ease cramped muscles, and perform normal body functions. When the target approaches, they must resist the temptation to open fire before the signal is given.

8607. AMBUSH PATROL

a. General

(1) An ambush patrol is a combat patrol whose mission is to establish and execute an ambush to:

(a) Harass a target.
(b) Destroy a target.
(c) Capture personnel or

equipment.

(d) Any combination of these.

(2) The manner in which the patrol executes an ambush depends primarily on whether the purpose is harassment or destruction. To a lesser degree, the manner of execution is determined by whether the ambush is deliberate or an ambush of opportunity. (See subpars. 8606d(5) and 8606d(6).)

(a) When the primary purpose is harassment, the patrol seals off the area to prevent reinforcement and escape of the enemy. Maximum damage is inflicted with demolitions and automatic weapons fire. The patrol delivers a heavy volume of fire for a short time and then withdraws quickly and quietly, without being seen.

(b) When the primary purpose of the patrol is destruction, the area is sealed off with security teams. Maximum damage is inflicted with demolitions, antitank weapons, and automatic weapons fire from the support team or element. When these fires are ceased or shifted, an assault is launched with heavy fire and great violence to complete destruction. The assault team provides security while designated teams kill or capture personnel and destroy vehicles and equipment. On the patrol leader's command or by prearranged signal, all elements withdraw to the objective rallying point and move out quickly.

(c) When the patrol's primary purpose is to obtain suppies or capture equipment, security teams seal off the area. Demolitions and weapons are used to disable vehicles. Designated teams secure the desired equipment. Other teams then destroy vehicles and equipment. If the ambush is executed to obtain supplies deep in the enemy area, the patrol leader must ensure that no enemy personnel are left to give information of the operation and that all vehicles and remaining supplies and equipment are destroyed.

b. Size and Organization

(1) The size and organization of an ambush patrol depends on the purpose of the ambush, the force to be ambushed, and the weapons and equipment with which the ambush is to be executed. The patrol is tailored for its mission. Two men may be adequate for a harassing ambush. A destruction ambush may require an entire unit (squad, platoon, or company).

(2) An ambush patrol is organized in the same manner as other combat patrols to include a patrol headquarters, an assault element, a support element, and a security element.

c. Planning and Preparation

(1) Routes.--A primary route is planned which will allow the patrol to enter the ambush site from the rear. The killing zone is not entered if entry can be avoided. If the killing zone must be entered to place mines or explosives, great care must be taken to remove any tracks and signs that might alert the target and compromise the ambush. If mines, mantraps, or explosives are to be placed on the far side, or if the appearance of the site from the target's viewpoint is to be checked, a wide detour around the killing zone is made. Here, too, great care must be taken to remove any

traces which might reveal the ambush. An alternate route from the ambush is planned, as in other patrols.

(2) Site.--Maps and aerial photographs are used to carefully analyze the terrain. When possible, an on-the-ground reconnaissance is made. As far as possible, so-called "ideal" ambush sites are avoided. An alert enemy is suspicious of these areas, avoids them if possible, and increases vigilance and security when they must be entered. The important element of surprise is even more difficult to achieve in these areas. Instead, apparently unlikely sites are chosen when possible. Considering this, an ambush site must provide:

(a) Favorable fields of fire.

(b) For occupation and preparation of concealed positions.

(c) Canalization of the target into the killing zone. An "ideal" killing zone restricts the enemy on all sides, confining him to an area where he can be quickly and completely destroyed. Natural obstacles such as cliffs, streams, embankments, or steep grades which force vehicles to slow down are used whenever possible. Manmade obstacles such as barbed wire, mines, and cratered roads are used to supplement natural obstacles.

(d) Covered routes of withdrawal to enable the ambush force to break contact and avoid pursuit by effective fire.

(3) Occupation of the Site.--As a general rule, the ambush force occupies the ambush site at the latest possible time permitted by the tactical situation and the amount of site preparation required. This not only reduces the risk of discovery but also reduces

the time men must remain still and quiet in position.

(4) Positions.--The patrol moves into the ambush site from the rear. Security forces are positioned first to prevent surprise while the ambush is being established. Automatic weapons are then positioned so that each can fire along the entire killing zone. If this is not possible, they are given overlapping sectors of fire so that the entire killing zone is covered. The patrol leader then selects his position, located where he can tell when to initiate the ambush. Riflemen and grenadiers are then placed to cover any dead space left by the automatic weapons. All weapons are assigned sectors of fire to provide mutual support. The patrol leader sets a time by which positions are to be prepared. The degree of preparation depends on the time allowed. All men work at top speed during the alloted time.

(5) Camouflage.--Camouflage is of utmost importance. Each man must be hidden from the target. During preparation for the patrol, each man camouflages himself and his equipment and secures his equipment to prevent noise. At the ambush site, positions are prepared with minimum change in the natural appearance of the site. All debris resulting from preparation of positions is concealed.

(6) Movement, Noise, and Light Discipline.--Movement is kept to a minimum and the number of men moving at a time is closely controlled. Every man is as quiet as possible, especially at night. Light discipline is rigidly enforced at night. Smoking is forbidden at night and is closely controlled in the day.

(7) Signals.--Three signals, often four, are needed to execute the ambush. Audible and visual signals, such as whistles and pyrotechnics, must be changed often to avoid establishing patterns. Too frequent use of the same signals may result in their becoming known to the enemy. A target might recognize a signal and be able to react in time to avoid the full effects of an ambush. For example, if a white star cluster is habitually used to signal withdrawal in a night ambush, an alert enemy might fire one and cause premature withdrawal. The following signals are commonly used by ambush patrols:

(a) A signal by the security force to alert the patrol leader to the target's approach. This may be given by:

1 Arm-and-hand signals.

2 Radio, as a quiet voice message, by transmitting a prearranged number of taps, or by signaling with the push-to-talk switch.

3 Field telephone, when there is no danger that wire between positions will compromise the ambush.

(b) A signal to initiate the ambush, given by the patrol leader or a designated individual. This may be a shot or the detonation of mines or explosives.

(c) A signal for lifting or shifting fires, if the target is to be assaulted. Voice commands, whistles, or pyrotechnics may be used. All fires must stop immediately so that the assault can be made before the target can react.

(d) A signal for withdrawal. This, too, can be voice commands, whistles, or pyrotechnics.

(8) Fire Discipline.--This is a key part of the ambush. Fire must be withheld until the signal is given, then immediately delivered in the heaviest, most accurate volume possible. Properly timed and delivered fires contribute heavily to the achievement of surprise, as well as to destruction of the target. When the target is to be assaulted, the lifting or shifting of fires must be equally precise. Otherwise, the assault is delayed and the target has opportunity to recover and react.

(9) Withdrawal to the Objective Rallying Point

(a) The objective rallying point is located far enough from the ambush site that it will not be overrun if the target attacks the ambush. Routes of withdrawal to the objective rallying point are reconnoitered. Situation permitting, each man walks the route he is to use and picks out checkpoints. When the ambush is to be executed at night, each man must be able to follow his route in the dark.

(b) On signal, the patrol quickly but quietly withdraws to the objective rallying point, reorganizes, and begins its return march.

(c) If the ambush was not successful and the patrol is pursued, withdrawal may be by bounds. The last group may arm mines, previously placed along the withdrawal route, to further delay pursuit.

CHAPTER 9

SPECIAL TACTICS AND TECHNIQUES

Section I. OPERATIONS AGAINST GUERRILLAS

9101. GENERAL

Operations against guerrilla forces are characterized by aggressive and carefully planned offensive actions. The rifle squad leader must be aware of the role his squad plays when engaged in such operations.

9102. CHARACTERISTICS OF GUERRILLA OPERATIONS

a. The squad leader must know how guerrillas operate to defeat them. Guerrillas require the following:

(1) Base.--An area with dispersed and alternate facilities to provide security, discourage pursuit, provide routes to alternate bases which are close to the area of operations, and has adequate routes for entry and exit.

(2) Supply.--A source of food, weapons, ammunition, and equipment.

(3) Intelligence.--Information which enables him to plan operations or evacuate his bases when endangered.

(4) Communications.--Means of gaining timely information and passing instructions promptly.

b. Guerrillas are ruthless, cunning, and able fighters even though they may have limited and outdated equipment. They attack weak or unprotected elements at night, during periods of reduced visibility, and when security is likely to be lax. Attacks are characterized by speed, surprise, and rapid withdrawal.

9103. INDOCTRINATION FOR THE SQUAD

The squad leader must indoctrinate the squad prior to taking part in operations against guerrillas. Stress is placed on the following:

a. Self-Discipline.--An important part of combating guerrillas is self-discipline. Men are proud of the spiritual values, culture, and customs of their country. If members of the squad ignore or neglect these items, hatred of Marines and sympathy for guerrillas may result.

b. Security.--Marines must be security conscious at all times. Two routine methods of providing security are safeguarding information and guarding installations. Loose talk, as well as careless performance of duty, endangers friendly forces.

c. Need for Intelligence.--Successful operations against guerrilla forces depend upon accurate and timely information. Guerrillas are elusive and must be located and eliminated. All means of communication are used to ensure rapid transmission of messages in keeping with security.

9104. ESTABLISHING A PATROL BASE

a. General.--To cover the entire area

of guerrilla operations, it is usually necessary to establish temporary patrol bases some distance from the parent bases. Temporary patrol bases are established by company or smaller units to include the squad and should not be occupied more than 24 hours except in an extreme emergency. In all situations, a patrol base is occupied the minimum time necessary to accomplish the purpose for which it is established.

b. Deception.--A patrol base is secretly occupied. Secrecy is maintained by practicing deception techniques that are carefully planned. Deception plans should include the following considerations:

(1) If possible, the march to the base is conducted at night.

(2) The route selected avoids centers of population.

(3) If necessary, local inhabitants met by the patrol in remote areas are detained.

(4) Inhabitants of areas that cannot be avoided are deceived by marching in a direction which indicates that the patrol is moving to some other area.

(5) Scouts operate forward of the main body of the patrol.

(6) Bases are usually located beyond areas that are patrolled daily.

(7) If fires are necessary, smokeless fuel is burned.

(8) Normally, not more than one trail should lead into the base and it should be camouflaged and guarded.

(9) The base is occupied as quickly and quietly as possible.

(10) The route to the base is selected by use of photos, maps, and ground and aerial reconnaissance.

(11) If practical, the patrol leader makes an aerial reconnaissance.

(12) Terrain features that are easily identified are selected as checkpoints and rest breaks.

(13) Daily aerial and ground reconnaissance is continued.

c. Locating the Base

(1) It must be secret and secure. A patrol operating from a base unknown to the enemy increases the possibility of guerrilla contact. A secure base permits the troops to rest.

(2) The base must have facilities of terrain suited for the erection of adequate radio antennas.

(3) If it is anticipated that an air drop or a helicopter resupply will be required, the base should have a convenient drop zone or landing point.

(4) The base must allow men to sleep in comfort. Wet areas and steep slopes are avoided. Flat and dry ground that drains quickly affords the best location.

d. Sequence of Establishment.--A suggested sequence for establishing a base in jungle or heavy woods is as follows:

(1) Leaving the Road or Trail.--The jungle and heavy woods provide the best

security from surprise and the best conditions for defense. Generally the best methods to use in leaving the trail or road are:

(a) Select the point to leave the trail or road.

(b) Maintain security while the column moves off the trail.

(c) Have troops at the end of the column camouflage the area where the exit was made from the trail.

(d) Continue movement until a suitable patrol base is reached.

(2) Occupation of a Patrol Base

(a) This occupation is based on a platoon of three squads, but the force may be larger or smaller.

(b) The patrol is halted at the last suitable position approximately 200 meters from the tentative patrol base location.

(c) Close-in security for the patrol is established and the patrol leader has his subordinate leaders join him to conduct a reconnaissance.

(d) Patrol leader moves to the tentative patrol base location and designates point of entry into patrol base location as 6 o'clock, then moves to and designates center of base as patrol headquarters.

(e) Subordinate leaders reconnoiter areas assigned by clock system for suitability and return to patrol leader upon completion.

(f) Patrol leader sends some men to bring the patrol forward.

(g) Patrol leaves line of march at right angles and enters base single file moving to center of base. Designated men remove signs of patrol's movement.

(h) Each leader peels off his unit and leads it to the left flank of his assigned sector.

(i) Each unit occupies its portion of the perimeter by moving clockwise to the left flank of next sector.

(j) Each unit then reconnoiters forward of its sector with designated individuals by moving a specificied distance out from the left flank of the sector; moving clockwise to the right limit of the sector and reentering at the right flank of his sector. They report indications of enemy or civilians, suitable observation and listening post positions, rallying points, and withdrawal routes.

(k) Patrol leader then designates rallying points, positions for OP's and listening posts, and withdrawal routes.

(l) Each squad then puts out an OP (day) and an LP (night) in front of each sector, establishes communications, and commences base routine.

e. Base Alert.--The critical periods for defending the base are at dawn and dusk. During these periods, the entire patrol remains in an alert status. The base alert serves the following purposes:

(1) Enables each man to see the disposition of troops and the nature of the ground to his front and flanks.

(2) Provides a definite cut off period for the change of routine. Beginning with evening alert, all movement and noise cease and lights are extinguished. After the morning alert, the daily routine begins.

(3) Enables the squad leaders to

check details while all men are positioned. This will include a check on maintenance of weapons, equipment, ammunition, etc.

f. Alarm.--The patrol must have a suitable alarm signal for the approach of either friendly or enemy troops. This signal should not sound foreign to the environmental area and must be detected only by patrol members.

g. Leaving a Base.--Before leaving the base, all signs of occupation are removed. Any shelters are destroyed. The area is left to appear as though it had not been occupied.

9105. ESTABLISHMENT OF CONTROL OVER CIVIL POPULACE

a. Rifle squads will assist in carrying out steps to reduce sympathy and civilian support for guerrillas by making visits to villages, enforcing troop discipline, and working closely with civil authorities. Every effort is made to deny guerrillas their source of supply, reinforcement, and recruiting.

b. Surprise attacks against guerrillas will encourage the populace to resist their operations. When friendly forces react effectively to guerrilla attacks, insecurity is developed among the enemy, while the population gains confidence in friendly forces. Raids and ambushes are conducted to keep guerrillas in a state of alarm for their security, to lower morale, to prevent rest, and to hinder their operations.

c. Rifle squads may assist civil

populace in executing the following control measures:

(1) Establishing restricted areas.
(2) Enforcing curfews.
(3) Relocating villages and settlements.
(4) Controlling weapons.
(5) Denying food.
(6) Searching individuals, vehicles, and houses.
(7) Training self-defense units.
(8) Riot control.
(9) Registering civilians.
(10) Establishing roadblocks and checkpoints.

9106. PATROL OPERATIONS AGAINST GUERRILLAS

a. Short- and long-range patrols perform reconnaissance and combat missions in operations against guerrillas. (See chap. 8.) Successful execution of these missions requires consideration of the significant differences between conventional and guerrilla forces.

(1) Guerrillas are difficult to identify because they frequently dress in civilian clothing. Although a distinctive insignia is sometimes worn, the carrying of a weapon is often the only means of identification.

(2) Guerrillas are elusive and when threatened scatter by fading into the civil population, thus making decisive combat difficult. Certain persons may be of value to patrols engaged in operations. For example: persons speaking the language of the area,

or native to the areas, who are sympathetic to our cause. They may be able to identify guerrillas, help locate guerrilla bases, and provide other timely information.

b. Rapid communications are important. Immediate transmission of information permits prompt, decisive action against guerrillas.

9107. OFFENSIVE ACTION AGAINST GUERRILLAS

a. General.--Aggressive action is required to destroy guerrillas. Offensive action is conducted by applying the tactics and techniques of regular offensive combat.

b. Purpose.--The primary purpose of offensive action is the destruction of guerrilla forces. Other objectives include capture or destruction of guerrilla concentrations, headquarters, communication centers, and sources of supply.

c. Types of Offensive Operations.--The most effective forms of offensive action may be classified as encirclement and attack.

(1) Encirclement.--Encirclement is the most effective method of destroying guerrillas. A rifle squad participates in the encirclement as part of a larger force. The operation consists of a movement from assembly areas to a line of encirclement, occupation of the line of encirclement, offensive drives, and destruction of guerrillas within the area.

(2) Attacks.--Although the encirclement is the most effective offensive maneuver used in combating guerrilla forces,

it is often difficult to execute because of inadequate forces, the type of terrain involved, or limitations imposed by the situation. Pressure on the enemy must be maintained by attack, patrols, and raids.

(a) Squads attack using normal offensive tactics. Surprise gives the attacker a marked advantage; therefore, every effort is made to move all elements into position quickly and undetected. Squads normally use the hours of darkness to move into positions for the attack and maneuver to blocking positions which seal off escape routes. All types of offensive tactics are employed. Success of the attack is often determined by agressiveness and speed.

(b) If possible, a double envelopment is used by the main body. This maneuver limits guerrilla withdrawal, disorganizes them, and creates shock effect. Elements of the attacking forces close rapidly with the enemy. Squad leaders must realize that the objective is total destruction of the guerrillas, not merely seizing and holding ground.

9108. ATTACKING GUERRILLA HOUSES

In planning an attack:

a. Secrecy is essential. Relatives, sympathizers, or intimidated natives can warn the enemy of the patrol's approach.

b. Location of the house and the nature of terrain surrounding it are determined by ground or aerial reconnaissance, sketches, photos, or guides.

c. The patrol approaches and occupies its position during darkness.

d. The patrol should be no larger than required to carry out the mission.

e. Approach is quiet and cautious, using all available cover.

f. Avenues of escape are covered physically or by fire.

g. If the mission is to capture the occupants, and armed resistance is not expected, surround the house and approach it from all sides.

h. If the mission is to attack the house, and armed resistance is expected, the patrol is located so that every side of the building is covered by fire.

Section II. ATTACK OF FORTIFIED AREAS

9201. GENERAL

A fortified area contains permanent defensive works. These works consist of emplacements, field fortifications, obstacles, and personnel shelters. They are disposed laterally, in depth, and are mutually supporting. A trench or tunnel system may be included to afford covered movement. A fortified area is deliberately planned to deny access to an attacker.

a. Characteristics.--Fortified areas differ in construction and physical layout. However, they all possess similar characteristics.

(1) Strength

(a) Emplacements and personnel shelters are constructed of reinforced concrete, steel, or heavy timbers and earth. The bulkheads and overhead may range to 8-feet thick. This construction provides the defender with cover from bombardment and small arms, and limited protection from direct fire weapons.

(b) The area is usually prepared in advance of hostilities which permits the use of natural camouflage; however, artificial camouflage may be used.

(c) Each emplacement usually has one or more automatic weapons mutually supporting each other.

(d) Wire is laid deep underground, thus providing a relatively secure means of communications.

(2) Weaknesses

(a) The weakest points of an emplacement are embrasures, air vents, and doorways. They provide the attacker with an opening to employ grenades, flame weapons, demolition charges, and small arms fire.

(b) Emplacements depend upon mutually supporting positions for all-around observation. When one emplacement is destroyed, observation is reduced proportionately.

b. Role of the Squad.--A rifle squad will normally be employed to destroy one emplacement. The squad attack is supported with machineguns, rocket launchers, flame weapons, and demolitions. Upon seizure or destruction of the emplacement, the squad supports by fire the attack on another emplacement by an adjacent squad or assaults another emplacement.

c. Employment of Weapons

(1) Organic

(a) Rifle.--Rifle fires are directed against enemy troops occupying outside positions.

(b) Automatic Rifle.--Automatic rifles fire into the embrasures at the maximum rate. When fires from the emplacement are neutralized, fires are shifted to troops in field fortifications and continued at the sustained rate.

(c) M203 Grenade Launcher.--Within the fire team, the grenadier/rifleman may be employed to fire on enemy troops in field fortifications when the fire team is providing a base of fire; or may provide close-in protection during the attack when the fire team is part of the maneuver element.

(2) Other Supporting Weapons and Equipment

(a) Machineguns are normally employed with the base of fire and fire directly into the embrasure of the emplacement. As the squad assaults, fires cease or shift to other targets.

(b) Rocket launchers are employed with the base of fire. Their fires are directed at the embrasure of the emplacement.

(c) Flame weapons move with the assault unit for employment in the assault. Flame weapons are fired from stand-off ranges at the embrasure of the emplacement. It is fired directly at the embrasure to blind the enemy, inflict casualties, and screen the movement of the assault unit.

(d) Demolitions are used extensively in fortified areas. They are employed to breach obstacles. A satchel charge is used to destroy the emplacement.

(e) A white phosphorous (WP) grenade is normally used to signal the assault and a ceasing or shifting of the base of fire. It is thrown close to the embrasure to blind the enemy, inflict casualties, and screen the movement of the assault unit.

9202. TECHNIQUE OF THE ATTACK

a. Planning and Coordination.--The squad leader receives the order for the attack from his platoon commander. His squad will be assigned the mission of seizing or destroying a certain emplacement. The other squads are assigned to other emplacements. They may be ordered to attack simultaneously or to neutralize the fires coming from an emplacement. Due to the characteristics of the area, attacks usually are conducted on a narrow frontage.

b. Planning the attack

(1) During his reconnaissance, the squad leader observes and plans the following:

(a) Location of the squad's objective (emplacement).

(b) Position of the embrasures and fields of fire.

(c) Surrounding field fortifications and obstacles.

(d) A tentative final coordination line.

(e) A route to the final coordination line.

(f) A position for the base of fire.

(g) A firing position for the flame weapon gunner.

(h) Location of other enemy emplacements supporting his assigned objective.

(2) Based upon the above, his mission, and the mission of the platoon, the squad leader plans his attack.

(3) Upon completion of his plan, the squad leader conducts a rehearsal, if feasible. During the rehearsal, he checks his plan and ensures that each man in the squad knows his duties.

c. Preparation Fires

(1) Bombardment of the area by air,

artillery, and naval gunfire may precede the attack.

(2) The squad leader will move his squad to the base of fire position under cover of preparatory fires. The base of fire is as far forward as possible.

d. Movement to the Final Coordination Line.--The base of fire pins down the enemy in the emplacement by firing into the embrasure. When fires from the emplacement are neutralized, the assault unit moves forward to the final coordination line.

(1) The assault unit breaches any obstacles it encounters en route.

(2) The final coordination line is to the side of the emplacement, taking advantage of the defender's restricted observation and limited field of fire.

d. Assault of the Emplacement.--The assault is conducted in the following sequence:

(1) The assault unit leader will throw a WP grenade to signal the assault. The base of fire is shifted or lifted on this signal.

(2) The flame weapon gunner fires at the embrasure, aiming low, allowing the flame to splash up and into the emplacement.

(3) The demolitions man moves forward under the smoke screen and places a satchel charge into or against the embrasure and returns to the assault position.

(4) As the flame and demolitions are employed, the remainder of the assault unit provides covering fire.

(5) After the charge explodes, the assault unit assaults the objective.

(a) Remaining enemy are destroyed.

(b) The emplacement is searched for intelligence material and tunnels or other entrances.

(6) After the emplacement is seized, the squad leader moves up his base of fire. The squad then seizes another emplacement or supports another squad by fire.

Section III. COMBAT IN BUILT-UP AREAS

9301. GENERAL

A built-up area is any group of buildings designed for living or commercial purposes.

a. Types of Built-Up Areas

(1) Isolated housing areas consist of small groups of buildings separated by large open areas. Example: farms or ranches with adjacent pastures.

(2) Detached or semidetached building areas are buildings separated by lawns, alleys, and garages or other small structures. Examples: villages and suburbs.

(3) Block type construction has little or no separation between buildings. Alleys and fire lanes may not exist. Buildings may be many stories high and may take up entire blocks. This type construction is found in business districts.

b. Characteristics

(1) Certain features of built-up areas which are considered in planning the attack or defense are:

(a) Buildings or houses made of wood or light materials are vulnerable to weapon fires, including small arms. They afford troops little more than concealment. Buildings of concrete and steel provide both cover and concealment. Sturdy buildings of this type have the characteristics of a fortified area.

(b) Due to the physical layout of the area, all cover will be set in straight lines which restrict movement. Streets and alleys are good routes of advance, but they also provide the enemy with killing zones and must be used with caution.

(c) Control of the rooftops is essential in controlling the immediate area.

(d) Rubble resulting from artillery fires or airstrikes slows the advance of the attacker, but also provides good cover and concealment for both attacker and defender.

(e) It is difficult to determine the location of hostile weapons. Nearby buildings cause sounds to be magnified and echoed along streets. Dust and smoke from projectiles and incendiaries reduce visibility.

(f) Defender and attacker are in close proximity during the attack. Normal close support from supporting arms is greatly reduced because of restrictions posed by tall buildings, thick walls, and fences. The 106mm recoilless rifle is effective because of the direct fire capability which improves the ability to destroy enemy fortifications.

(2) These characteristics result in reduced effectiveness of fire and observation and make troop control more difficult. The outcome of the fighting depends largely upon initiative and aggressive leadership.

9302. ATTACKING A BUILDING

a. General.--Possession and control of

upper floors and roofs of buildings is important. The attacker attempts to enter buildings from roofs or upper stories while the defender makes every effort to guard the approaches to his position from these vantage points.

b. Role of the Squad.--A rifle squad is normally employed to search and clear one building. It may have machineguns and rocket launchers to assist. Upon seizure of the building assigned, a squad supports by fire the seizure of another building by an adjacent squad or clears another building.

c. Organization of the Squad.--The squad is organized into a covering party and a search party.

(1) A covering party normally consists of two fire teams and any attached weapons. The mission of the covering party is to protect the advance of the search party. It accomlishes this mission by firing on adjacent buildings which have not been searched and by providing killing zone fires in the streets and alleys. The covering party displaces on order of the squad leader after the building has been cleared while the search party covers the movement.

(2) The remaining fire team is the search party. It is further organized into a covering team and a search team. The rifleman and automatic rifleman form the search team which enters the building first to search the room they entered. When the room is clear, they signal the covering team to join them. The operation is continued until the building is cleared.

(3) The squad leader positions himself where he can best control his squad. This is usually with the covering party.

d. Conduct of the Attack

(1) If possible, buildings are cleared from the top down. There are three methods of entering and clearing buildings.

(a) Entry on Uppermost Level.--Entrance through the upper part of a building is preferable as it is easier to work down than up. A cornered enemy may fight desperately, but an enemy forced down to the ground level may be tempted to withdraw from the building and expose himself to the fire of covering units. Various means may be used to reach the top floor or roof of a building such as ladders, rainspouts, vines, or holes blown in walls of adjoining buildings. Toggle ropes and grappling hooks are useful.

(b) Entry on Middle Floor.--If entry on the top floor is not possible, entry should be made at the next highest point, using techniques described above. The point of entry is cleared first.

(c) Entry on Ground Level.--When entering at ground level, it is preferable to use demolitions, artillery fire, tanks, or other weapons to blast an entryway. Doors and windows are often boobytrapped or covered by fire.

(2) On order of the squad leader, the fires of the covering party are shifted from the point of entry. The search party then effects entry into the building to be searched.

(a) A fragmentation grenade is

thrown through the entryway.

(b) Taking advantage of the shock effect of the grenade, one member of the team enters the building and takes a position from which he can cover the entire room.

(c) The second man enters and searches the room.

(3) When the first room has been searched, the search team sounds off "CLEAR" and is joined by the covering team.

(a) Before entering the room, the fire team leader sounds off "COMING IN" to alert the search team.

(b) The fire team leader takes a position from which he can direct the search.

(4) Inside the building, voice communications are used.

(a) As each room is cleared, the search team sounds off "CLEAR."

(b) When entering or leaving a room which has been searched, sound off "COMING IN" or "COMING OUT."

(c) When using stairs leading to areas which have been cleared, "COMING UP" or "COMING DOWN" will be sounded.

(d) Voice communications prevent members of the search party from being surprised and assists the fire team leader in controlling the search.

(5) When the building is cleared, the fire team leader signals the squad leader and marks the building with a prearranged code. The squad leader moves the covering party forward, protected by the search party.

e. Techniques of House-to-House Fighting

(1) Built-up areas are ideal for the use of boobytraps. Certain steps may be taken to avoid them or lessen their effect.

(a) Mark entrances into buildings and rooms used by the search team. Teams should use these entrances, since they are known to be clear.

(b) When moving on stairs, take two or three steps at a time.

(2) Proper individual movement is important, and methods of movement must be evaluated. One situation may call for speed and aggressiveness, while another may require stealth. Certain techniques should be stressed to ensure proper movement.

(a) When moving along streets and alleys, select cover in advance. Hug walls and move from cover to cover. Above all, do not bunch up.

(b) Roll over walls quickly presenting a hard-to-hit target.

(c) When crossing a street, move directly rather than diagonally. To limit exposure, teams frequently cross together.

(d) Coordination of movement between individuals and units is of utmost importance because proper covering fire and observation can then be given.

(3) Where it is an advantage, use smoke to cover the movement of units. Smoke normally lingers in a built-up area.

(4) Care is taken when using grenades.

(a) Do not throw grenades up stairs.

(b) Throw grenades into rooms vigorously. This will make it ricochet prior to exploding and deny the enemy the opportunity to throw it back.

(5) Demolitions may be used to blast entrances into rooms.

(6) Proper utilization of maps/aerial photographs and tactical control measures is emphasized.

Section IV. TANK-INFANTRY COORDINATION

9401. GENERAL

The tank is primarily an offensive weapon employed to carry the fight to the enemy. Maximum use is made of its firepower, mobility, speed, and shock action.

a. Infantry Responsibilities.--A rifle platoon commander usually directs the initial type of protection to be afforded the tanks by his rifle squads. As the attack progresses, the rifle squad leader decides whether to protect the tank physically or by short- or long-range fire. His decision as to which type of protection to employ is based primarily on the terrain and situation.

b. Tank Responsibilities.--Tanks can provide accurate high velocity direct fire support to the infantry. As a secondary role, tanks can assist in the antitank defense. Tank unit commanders make recommendations as to method of tank employment based upon the situation, terrain, mission of supported unit, and tentative concept of operation.

9402. TANK CAPABILITIES AND LIMITATIONS

a. Capabilities.--Tanks have four general capabilities. These are:

(1) Firepower.--Different type tanks are equipped with various type machineguns and high velocity tank guns.

(2) Armor Protection.--Tanks have

sufficient armor to withstand small arms fire and shell fragments. This capability makes them an effective weapon in the assault.

(3) Mobility.--They possess cross-country mobility that permits rapid concentration and maneuver. Tanks can span an 8-foot ditch, ford 4 feet of water without special fording equipment, and are capable of climbing 3-foot obstacles.

(4) Shock Action.--Firepower, armor protection, and mobility of the tank, when properly employed, provide shock action.

b. Limitations

(1) Inherent.--The size, weight, noise, limited observation, and fuel consumption rate are inherent limitations.

(2) Natural Obstacles.--Terrain limits the employment of tanks. Deep mud, rocky or stumpy ground, dense woods, swamps, and extremely rough ground limit their use. Rolling terrain, where cross-country mobility can be exploited, is the best type terrain for tank operations.

(3) Manmade Obstacles.--Manmade obstacles constructed adjacent to natural obstacles often canalize tank movement and restrict their employment. Obstacles frequently encountered are tank ditches, tank traps, and roadblocks reinforced with antitank mines covered by antitank weapons.

9403. TANK-INFANTRY COMMUNICATIONS

a. General.--Squad-tank team coordination depends upon establishing and maintaining communications. Communications between squad and tank may be established by visual signals, tank-infantry phone, or personal contact. Larger infantry units normally use radio.

b. Tank-Infantry Telephone (TI Phone). --The TI phone is the best means of communication between squad and tank. The TI phone is located on the right rear of the tank. The phone extension wire is long enough (about 40 feet) to permit a user to take cover on either side of the vehicle. Messages are given slowly and distinctly. When conversation is terminated, the phone is returned to the box and the cover closed.

c. Visual.--When a tank is "unbuttoned" and there is visual contact between tank commander and squad leader, communications may be by arm-and-hand signal. Standard arm-and-hand signals are used to indicate "change direction," "halt," "advance," and "cease firing." Prior to attack, a rifle squad leader should review his arm-and-hand signals with the tank commander.

d. Examples.--The following are examples of simple communication means which assist in tank-infantry coordination:

(1) From Infantry to Tank

(a) Waving a colored panel means "We are friendly troops." This signal is particularly valuable when friendly troops are endangered by tank fires.

(b) Two infantrymen holding their entrenching tools or rifles upright and stationary means "You will not endanger anyone passing between the markers." This signal is used when tanks and infantry become intermingled.

(c) The familiar "okay" sign made with the hand open and the index finger and thumb circling means "understood" or "on target."

(d) Pointing to the mouth means "I want to talk to you."

(2) Tanks to Infantry

(a) Repeated elevation and depression of the gun tube means "I have received your signal and understand same."

(b) Flag displayed from turret means "Tank in distress--need infantry assistance."

(c) Elevation of gun tube to maximum elevation means "Will not fire until I receive further instructions from you; it is safe to advance in front of me."

(d) Rotating turret and gun to the travel position from the firing position means "Tank out of ammunition or fuel and must withdraw, but will return as soon as possible."

(e) Other emergency signals may be prescribed in unit standing operating procedures.

9404. INFANTRY PROTECTION OF TANKS

a. Physical Protection.--When visibility is poor, such as in woods, thick brush, tall grass, or when fog or smoke hinder observation and provide concealment for tank-killer teams, a squad gives close protection to the tank with one fire team moving near the tank at all times. Remaining fire teams should follow at 40 to 60 meters, depending upon visibility. A fire team working close to the tank should maintain a minimum distance of 10 to 15 meters from it. This fire team should not move in front of the tank except when leading it through minefields or other obstacles. The squad leader usually remains in the center of the tank-infantry team.

b. Short-Range Fire Support.--In open terrain, tanks may be protected by small arms fire up to a range of 300 meters. A squad supporting a tank in this manner follows by fire and movement. One fire team must be in position to cover the tank by fire at all times. Squad movement is regulated to keep the tank in sight at all times and never more than 300 meters away.

c. Long-Range Fire Support.--In flat, open terrain, tanks may be protected by long-range small arms fire. When supporting a tank by long-range fire, the squad does not move, but stays in a position, firing to the flanks of the vehicle so that enemy infantry cannot approach it. Artillery or mortars may be employed to fire airbursts over the tanks to prevent enemy personnel from attacking it with antitank devices.

d. Infantry Riding on Tanks.--Under certain conditions, infantry may ride tanks. This is a means of transportation and not a method of attack. Usually, only one squad rides a tank. Mounting is done from the front and dismounting from the sides. The squad leader is last to mount or dismount and signals the tank commander that the squad is ready to move. Whenever the tank stops, infantry dismount and deploy.

9405. TARGET DESIGNATION

a. Clock Method.--The clock system is used when designating targets by voice over the TI phone. The direction in which the bow of the tank is facing is considered as 12 o'clock. To designate a target, the infantry unit leader should attract the tank commander's attention (ALERT), get the tank commander to look in the right direction (DIRECTION), give him the range to the target (RANGE), describe the target (TARGET DESCRIPTION), tell the tank commander what fire effects are required and when (FIRE REQUEST), whether or not the infantry can observe his fire, and tell the tank commander to cease firing if required. A target description is given to assist the tank commander in determining the type ammunition to use.

b. Tracer.--When designating targets that are difficult for the tank commander to locate, infantry leaders may direct fire by using tracers.

c. Smoke and Smoke Streamers.--If the target is extremely difficult for the tank commander to locate, a smoke grenade is normally used to indicate the target.

d. Arm-and-Hand Signals.--Indicate the direction of the target by pointing with the arm and hand, or with a rifle. Give the range by hand signal. Sensing to the tank crew of an over (thumb pointed up) or short (thumb pointed down) for each successive round should be given until the gunner is on target. Right or left may also be indicated by pointing. To indicate that fire is on target and should continue, the "okay" signal is given. If no further fire is required on the target, use the conventional cease fire signal. The man giving the target designation signals should be at the right rear of the firing tank, at a distance of about 15 meters.

9406. TANK-INFANTRY TACTICS

a. Methods of Attack.--There are three methods of attack by tank-infantry teams. The rifle squad usually participates in a tank-infantry attack with other squads of the platoon.

b. Same Axis.--The same axis attack may be conducted in one of the following two techniques:

(1) Different Speed.--Rifle squads advance under cover of tank fires until they approach the final coordination line. At this time the tanks are signaled forward to join the infantry in the assault (preceding them). This procedure must be carefully timed to prevent an infantry halt at the FCL. This technique capitalizes on the mobility and shock effect of the tank.

(2) Same Speed.--When there is need for close mutual support, the tank and rifle squad may advance together. The rifle squads and the tanks perform fire and movement jointly as required by the situation, with the

infantry providing protection to the tanks. (See par. 9404.) The tanks and infantry assault from a common FCL reached during the fire and movement phase. This procedure is very easy to control, quick to launch, and simple to plan, but reduces the tank speed to the infantry speed as the squad leader controls the speed of the tank by using the tank infantry phone or signals. Further, the infantry and tanks may be subjected to the entire defensive effort of the enemy. The technique may be used when the platoon commander finds it difficult to observe and control tanks and rifle squads because of terrain restrictions. The close mutual support effort is accomplished largely at tank-squad level.

c. Converging Axes.--In this method of attack, two different routes are used to approach the objective. This may achieve surprise and forces the enemy to fight in two directions. Generally, when using converging axes, infantry moves on one axis and tanks on the other. This does not preclude tanks and infantry moving on each axis, although this would lessen the shock effect because tanks must adjust to the pace of the infantry. Coordination of the entire attack is more difficult than in other methods. The tanks will normally support by fire until the infantry is ready to assault. At this time, both forces converge on the objective to arrive simultaneously. It is desirable that tanks lead the infantry onto the objective.

d. Support by Fire.--This method is least desirable. It consists of an infantry attack with tanks supporting by fire. This method is used when conditions prevent the physical presence of tanks in the assault. When obstacles are breached or suitable avenues are uncovered, tanks should rejoin the infantry on the objective.

e. Safety Considerations

(1) Do not move in front nor abreast of the bow of a tank when it is firing (muzzle blast area extends 20 meters on each flank).

(2) Mount and dismount only when the tank is stopped and the turret is stationary. Mount the tank from the front and dismount from the sides.

(3) Tanks have a short turning radius. Stand clear of a moving or turning vehicle at all times.

(4) When mounting or dismounting tanks, feet and arms must be kept clear of tank tracks.

(5) When riding tanks, arms, legs, and equipment must not extend beyond the edge of tank fenders.

(6) No smoking is permitted when mounted on a tank.

(7) Infantry should keep clear of tanks being refueled or resupplied with ammunition.

Section V. NUCLEAR AND CHEMICAL DEFENSE

9501. INTRODUCTION TO NUCLEAR DEFENSE

The introduction of nuclear weapons in modern warfare has placed greater responsibility on the unit leader. While nuclear fires produce casualties through blast, heat, and radiation, their effect depends upon many variables. Such variables include the size or yield of the weapon, height of burst (subsurface, surface, or airburst), distance from ground zero, and the protection afforded troops by foxholes or armor. Marines with a basic knowledge of nuclear weapons and their effects can survive and still function as an effective part of a combat unit. Tests have proven that troops with adequate protection can operate within a matter of minutes in an area where a nuclear explosion has occurred.

a. Conventional and Nuclear Explosions. --There are several basic differences between a nuclear and a high explosive detonation. First, a nuclear explosion may be many thousands or millions of times more powerful than that of the largest conventional weapon. Secondly, a fairly large portion of the energy of a nuclear explosion is in the form of heat and light or thermal radiation, which is capable of producing injury or starting fires at considerable distances from the point of detonation. Thirdly, and probably the greatest difference, is the highly penetrating and harmful rays, called "initial nuclear radiation." Finally, the substances left after the explosion are radioactive, giving off harmful radiation over an extended period of time. This is known as the "residual nuclear radiation" or "residual radioactivity." It is these differences between the conventional and nuclear explosions that require special considerations.

b. Effects on Individuals.--Casualties from nuclear fire result from blast, thermal radiation, and nuclear radiation effects.

(1) Blast.--Injuries are caused by both direct and indirect blast effects. Direct effect injuries such as ruptured eardrums and internal injuries are the result of the very high pressure waves generated by the blast. Indirect effect injuries are caused by falling buildings; flying objects; scattered glass; and fires started from short circuits, overturned stoves, and ignited fuels. The highest percentage of blast injuries will normally be a result of indirect effects.

(2) Thermal Radiation and Other Burns.--It has been estimated that approximately 30 percent of the deaths that occurred as a result of nuclear weapons were due to burns of one kind or another. Persons in the open within 2 miles of a medium-sized nuclear weapon will receive painful flash burns on exposed skin. Fires resulting from blast cause other burn injuries. Personnel looking directly at the nuclear explosion may receive eye damage which is usually temporary in nature. Flash and flame burns resulting from nuclear explosions are treated like other type burns.

(3) Nuclear Radiation.--The damage done by nuclear radiation depends on the dosage

received and the time of exposure. Exposure to nuclear radiation does not necessarily cause radiation sickness. It takes a large amount of nuclear radiation, either initial or residual, to seriously harm an individual. Normally, the effects of nuclear radiation are not noticed during or immediately after exposure. If a man receives an excessive amount of nuclear radiation, such symptoms as nausea, vomiting, and a feeling of weakness occur within a few hours. Bear in mind, however, that a person can have nausea, vomiting, and weakness and still continue his duties. Generally, these immediate effects do not require that the individual be evacuated. Except in cases of extreme overexposure, these effects soon disappear and may not occur again, depending upon the dose received.

c. Types of Burst.--Nuclear bursts are generally described as air, surface, and subsurface, depending upon where the explosion occurs in relation to the surface of the earth. The height of burst is important since it influences the amount and kind of damge that occurs.

(1) Airburst.--An airburst is a nuclear explosion in which the fireball does not touch the surface of the earth. The greatest danger from this type of burst is from blast and heat. The primary nuclear radiation hazard is from initial nuclear radiation but a residual hazard may exist out to several hundred meters from ground zero (GZ) (further with larger yield weapons) and should be avoided or passed through rapidly if attack through or reconnaissance of this area is necessary.

(2) Surface Burst.--A surface burst is one in which the fireball touches, but is not beneath, the surface of the earth. Damage from blast is less widespread, and damage from heat is approximately the same as for an airburst of the same size. About the same initial nuclear radiation is present. Residual nuclear radiation is created in the target area and may occur as fallout in downwind areas.

(3) Subsurface Burst.--A subsurface burst is one in which the center of the fireball is beneath the surface of the earth. Most of the blast effect appears as ground or water shock waves. The majority of the heat and initial nuclear radiation is absorbed by the surrounding earth or water. However, considerable residual radiation is produced in the target area and later as fallout.

d. Individual Protection

(1) General.--The effects of a nuclear explosion may be divided into two broad categories, immediate and delayed. The immediate effects are those which occur within a few minutes of detonation and include blast and shock, thermal radiation, and initial nuclear radiation. The delayed effects are normally associated with the radioactivity present in fallout and neutron-induced activity. The early fallout from a surface burst will begin to reach the ground within a few minutes after the explosion at close-in locations, and later at greater distances from ground zero.

(2) Protection from Blast.--Since the effects of blast are immediate, consider the individual in each of two circumstances;

when adequate warning is given prior to the attack, and when no warning is forthcoming.

(a) When adequate warning is given, the individual has time to prepare his defenses. The foxhole is good protection. It should be deep and strong with the cover well secured. Bunkers, fortified positions, and shelters are excellent protection from all effects of blast.

(b) When there is no prior warning, individual reaction is mandatory. Remember, the flash can be seen a few seconds before the blast wave arrives. In any case, a person should stay down for at least 90 seconds. Ditches, culverts, and hills offer good protection and as the distance from the ground zero increases, good protection can be obtained from walls, slight depressions in the ground or anything that breaks the pattern of the wave.

(3) Protection from Thermal Radiation.--Another of the immediate effects that requires reaction on the part of the individual is the thermal radiation that is emitted from the fireball. Thermal radiation has a line of sight effect, so protection from it is the same as for blast. If prior warning of a nuclear attack is received, preparation both for blast and thermal radiation should be complete. If a weapon goes off with no warning, drop flat on the ground or to the bottom of a foxhole, keep your eyes closed and protect exposed skin from heat rays as much as possible (keep hands and arms near or under your body and helmet on). This immediate reaction will minimize serious burns.

(4) Protection from Nuclear Radiation.--The different effects of nuclear

radiation require both immediate and delayed action. Initial nuclear radiation is spent in the first minute or two after the burst, so protection from it is the same as for thermal radiation and blast. Any material will afford some protection from initial radiation, but denser items are better. For example, earth is a better shield than water, and steel is better than concrete.

(a) Residual Radiation.--Under conditions where the explosion takes place either on or beneath the surface, the resulting residual radiation hazard is high. Particles of water spray, dust, and other debris which become radioactive through contact with the nuclear reaction of the weapon, contaminate large areas. Individual protection consists of avoiding the fallout particles. This may be accomplished in the field covering foxholes with earth, a shelter half, or poncho. Open food and water supplies should be destroyed if contaminated. Personnel and equipment should be checked and decontaminated if necessary.

e. Decontamination

(1) General.--At the small unit level, decontamination is usually confined to personnel, equipment, and food.

(2) Personnel.--Personnel decontamination should be accomplished as soon as the tactical situation permits.

(a) Normal Procedure.--In rear areas, and when permitted in the tactical area, personnel bathe, using plenty of soap and water. Particular attention should be given to skin creases, hairy parts of the body, and the fingernails.

(b) Field Expedient Procedures. --When the tactical situation prohibits normal procedures, field expedient procedures are used. Clothing should be removed and shaken vigorously downwind. Shrubbery can be used to brush radioactive particles from the clothing. Personnel should put on a protective mask or cover their nose and mouth with a damp cloth to prevent inhalation of the radioactive dust. Care must be taken to avoid secondary contamination of food or water supplies during the shaking of clothing. Personnel then wipe all exposed skin with a damp cloth and remove as much dust as possible from the hair and from under the fingernails. Personnel should bathe and change clothing when the tactical situation permits.

(3) Equipment.--The squad may be required to decontaminate individual items of equipment. The decontamination of equipment may be accomplished by removal (brushing and washing), sealing, and aging. In some cases, brushing will reduce dry contamination to a permissable level. In most cases, washing will be adequate even though brushing has not been effective. When speed in the decontamination of equipment is important, brushing is performed first, followed by washing as time and circumstances permit.

(4) Food.--Food and water that have become contaminated should be destroyed by burying.

9502. CHEMICAL DEFENSE

a. General.--Chemical agents are efficient, simple to produce, and capable of killing or incapacitating in a matter of seconds. Prior training and indoctrination is necessary for survival and combat efficiency.

b. Types of Chemical Agents.--Chemical agents are divided into the following general classifications:

(1) Toxic Chemical Agents.--Chemical agents designed to kill or incapacitate are known as toxic agents. They may enter the body through the lungs or by contact with the skin. The current groups of toxic agents are:

(a) Nerve Agents.--These agents are quick-acting. Entering the body through breathing or by skin contact, they are very rapid in action and produce immediate casualties.

(b) Blister Agents.--These are delayed action chemicals that produce blisters on exposed skin, in the eyes, or the respiratory system. Symptoms may appear within 4 hours or as long as 36 hours after exposure.

(c) Blood Agents.--These are rapid acting agents that deprive the body of oxygen. They must be inhaled to be effective so the field protective mask affords complete protection.

(d) Choking Agents.--These are delayed action casualty producers that are very damaging to the lungs. Low concentrations may be difficult to detect. The protective mask provides adequate defense.

(e) Incapacitating Agents.--These chemicals will cause temporary casualties that may be extremely difficult to control. Symptoms of mental confusion may take several hours to appear and may last for several days. Restraint and immediate medical assistance is necessary.

(2) Irritant Chemical Agents.--The irritant agents produce temporary irritating or disabling effects if they are inhaled or contact the eyes and skin. The standard agents of this group range from CN (tear agents) through chlorine.

(3) Smokes.--Smokes are chemical agents used to deny observation or transmit a signal.

(a) Screening Smokes.--Screening smokes are used to screen friendly movement or deny enemy observation.

(b) Signalling Smokes.--Signalling smokes are special fuels containing dye which produce colored smokes.

(4) Flame Fuels and Incendiaries.--The flame fuels are normally employed against personnel and incendiaries are used to destroy material.

(a) Flame Fuels.--These agents consist of special blends of petroleum products, usually in thickened form. They are easily ignited and may be projected toward a target by a flame weapon or flame tank.

(b) Incendiaries.--These agents consist of a combination of flammable substances that burn with an intense heat and cause combustion and/or ignition in most materials. The incendiaries are thermite and thermate. White phosphorus (WP) may be used as an incendiary or as a screening smoke.

c. Detection of Chemical Agents.--The success of chemical defense depends to a great degree on the thoroughness of the training program conducted by the small unit leader. This training must consider the various characteristics of the agents as stated above and the three phases of defensive operations: detection, protection, and decontamination.

(1) Intelligence Sources.--Intelligence sources may warn of expected attacks. These reports are usually based on enemy preparations and capabilities.

(2) Individual Marines.--Marines may be able to identify a chemical attack by the use of their physical senses. Agents may have characteristic odors, create a visible cloud, appear as droplets on vegetation, or be detectable only by early recognition of symptoms. Because of this variety and the risk of rapid casualty effects, an automatic masking procedure will be put into effect once chemical operations are initiated. Any suspicious occurrence (low flying aircraft, smoke screen, unaccountable liquid, unusual physical or mental symptoms) will be considered a potential threat and all Marines will mask. The situation can then be checked in comparative safety and the decision made to unmask or continue a protected posture as required.

(3) Special Equipment.--There are several items of special equipment designed for the identification and detection of chemical agents. The squad should be basically familiar with this equipment and its uses.

(a) Paper, Chemical Agent, Detector, ABC-M8.--ABC-M8 chemical agent detector paper is a component of the chemical agent detector kits. The sheets consist of paper impregnated with chemical compounds that vary color when in contact with V- or G-type nerve agents or blister (mustard) agents, in liquid form. This paper does not detect vapor and must touch the liquid agent to ensure a positive test. Because some solvents cause a change in the color of the paper, it is unreliable for determining the completeness of decontamination by the use of solvents. A color chart is included in the booklet to aid in interpreting the tests.

(b) Crayon, Vesicant, Detector, M7A1.--M7A1 vesicant detector crayon is a component of the M18 chemical agent detector kit. It may be used like blackboard crayon and rubbed on equipment or on a piece of paper to detect contamination by blister (mustard) agents. Liquid or high vapor concentrations of blister agents (except the nitrogen mustards) turn detector crayon from pink to blue. The crayon cannot be used as a reliable test for other chemical agents.

(c) Chemical Agent Detector Kit, M18A2.--This item is designed for company and larger sized units and provides the means of detecting and identifying vapor concentrations of most chemical agents. Color changes occur in select detector tubes and tickets as air is drawn through by the operator. These devices are designed for rapid identification of agents but cannot be used as warning devices as test reactions may take several minutes to complete.

(d) M8 Automatic Chemical Agent Alarm.--When available, this automatic device will become the primary means of detecting chemical agents in a unit area. It provides an audible alarm and visual signal when activated by low level concentrations of most toxic agents. This is a warning device and further evaluation would be required to actually identify the agent in use.

d. Protection

(1) Protective Mask.--When properly fitted, the protective mask protects against inhalation and facial contamination by toxic agents. This is the primary means of protection in chemical defense.

(2) Protective Clothing.--Protective clothing is available for those persons required to enter or remain in a contaminated area for a length of time.

(3) Antidotes.--Antidotes for blister and nerve agents are found in the protective mask carrier.

(a) Amyl nitrite ampuls (similar to ammonia "smelling salts" ampuls but with a yellow cover) are a very effective antidote for blood agent poisoning and will be issued to the individual as a first aid item.

(b) Atropine is used as treatment for any exposure to a nerve agent. It may be given by medical personnel or self-administered by the individual. Effects should be obvious in 15 to 20 minutes.

e. Decontamination.--Decontamination consists of washing away, neutralizing, or destroying the chemical agent. The squad should be familiar with two groups of decontaminants, the natural and standard items, plus the procedure for personnel decontamination.

(1) Natural.--Natural decontaminants are those provided by nature.

(a) Weather may be used when time is not a factor in the use of equipment or terrain.

(b) Water may be used to flush or neutralize certain agents from the surface of equipment. Hot water produces the best results.

(c) Earth is used to seal in contamination or act as an absorbent. If earthmoving equipment is available, an area that is contaminated may be covered with about 4 inches of earth and then crossed without danger to personnel.

(d) Fire may be used to destroy or vaporize liquid agents, especially in grassy or wooded areas.

(2) Standard.--There are certain chemical compounds that may be used to reduce the effectiveness of contamination.

(a) Bleach (STB) is a chlorinated lime that will neutralize most liquid agents.

(b) Slurry is a mixture of bleach and water designed for easier surface coverage.

(c) DS-2 is a special solution designed for use against blister and nerve agents.

(d) The ABC-M13 decontaminating and reimpregnating kit contains two cloth bags that are used for decontaminating clothing and other material and a skin pad that is used for absorbing chemical agents from the skin.

(3) Personnel Decontamination.--Consists of emergency decontamination using the ABC-M13 decontaminating and reimpregnating kit immediately upon attack. A thorough washdown with hot, soapy water and a change of clothes should follow use of the kit, when the situation permits.

65

Section VI. MINE WARFARE AND DEMOLITIONS

9601. MINE WARFARE

a. General.--Because of the growing importance and broadened scale of employment, mine warfare is no longer an exclusive engineer responsibility. It is essential that the Marine rifle squad be adequately trained to protect themselves from enemy mines and to employ mines against the enemy. The use of mines is an integral part of tactical planning and, as such, their use requires detailed planning and coordination as well as considerable logistic support. Hence, authority to employ minefields is normally restricted to the battalion or higher echelons. When mines are authorized for use, the squad leader will receive definite instructions on their employment from his superiors.

b. Mine Warfare.--Mine warfare is the employment of mines against an enemy and the countermeasures employed against hostile use of mines. In both offensive and defensive combat, the employment of minefields, covered by fire, helps the commander accomplish his mission. It is essential that each Marine as part of the Marine rifle squad be trained in mine warfare and thereby gain confidence in dealing with both friendly and enemy mines.

c. Purpose of Minefields.--A minefield is designed to affect a particular type of movement such as armor, personnel, or a combination of the two. To prevent the enemy from bypassing the minefield, it is either tied in with other obstacles, both natural and artificial, or supported by fire. Minefields are laid to accomplish at least one of the following:

(1) Delay the enemy.

(2) Canalize or guide the enemy to desired areas where fires may destroy him.

(3) Harass and/or demoralize the enemy.

(4) Supplement other weapons and obstacles.

d. Classification of Minefields.--Minefields are classified functionally according to the purpose for which they are laid.

(1) Protective Minefield.--A protective minefield is designed to give close-in protection and warning. Such a minefield is laid on short notice, for limited time, and all mines must be readily detectable. No pattern is specified and booby traps are not employed. A standard minefield form with at least minimum information is submitted. Several Marines should know the exact location of each mine.

(2) Defensive Minefield.--A defensive minefield is installed in accordance with the division plan to deny the enemy use of the avenues of approach. It is covered by fire, and 5 percent of the total antitank mines should be boobytrapped. A minimum depth of 100 meters using a standard pattern is employed. A standard record form is forwarded to higher headquarters.

(3) Barrier Minefield.--A barrier minefield is laid to block enemy attacks and to

canalize him into selected battle areas. Characterized by the size and high density, barrier fields have about 20 percent of the AT mines boobytrapped. The typical minimum depth of the minefield is 300 meters.

(4) Nuisance Minefield.--A nuisance minefield is installed to delay and disorganize the enemy and to hinder his use of an area or route. Because nuisance minefields will seldom be covered by fire and a pattern is not required, every "dirty trick" device possible is used.

(5) Phony Minefield.--A phony minefield is an area of ground used to simulate a minefield with the object of deceiving the enemy. It is used to supplement or extend live minefields and is effective only if the enemy has become mine conscious.

e. Landmines.--Landmines consist of a charge of high explosive contained in a metallic or nonmetallic casing fitted with either a fuze and/or a firing device for actuation by enemy vehicles or personnel.

(1) Antipersonnel mines consist of a small amount of high explosive in a container fitted with a detonating fuze arranged for actuation by pressure, release of pressure, by pull on a tripwire, or by release of tension. The two general types of antipersonnel mines are the bounding fragmentation type and the blast type.

(2) Antitank mines consist of a charge of high explosives in a metallic or nonmetallic case. Antitank mines require a pressure of 290 to 500 pounds to detonate them.

f. Minefield Installation.--The commander of a unit determines the mine density, the frontage and depth of the field, and the average length of mine strips before he can determine the total number of mines needed. The Marine rifle squad installs a portion of or the entire minefield depending on size and time available.

g. Reporting and Recording Minefields.--Three informal reports are made on every minefield laid by friendly troops. The first report is the intention to lay, which is made as soon as it is decided to install a field. The second report is made when the unit is ready to begin installations. The third is the report of completion of laying. At least two landmarks, natural or artificial, capable of being located on the ground from grid reference should be used.

h. Detection of Mines

(1) Visual.--Visual inspection is used to locate mines. Experience with the mine habits of a particular enemy often is a great aid. A careless or hurried enemy may leave indications such as disturbed soil, piles of stones, or debris from mine packaging. Pot holes, road patches, soft spots in road and shoulders, bypass routes, and bivouac areas are places that Marines can expect to find mines. Abandoned vehicles, felled tree trunks, and souvenir materials should be avoided because of the boobytrap danger.

(2) Probing.--Probing is the method of detecting mines by penetrating the earth with a sharp instrument such as a

bayonet, a stiff wire, or a mine probe. Probing is slow, but it is the surest and safest way to locate mines, particularly the small antipersonnel type such as the M14. When probing, move on hands and knees with sleeves rolled up to increase sensitivity to contact with tripwires. Look and feel for tripwires and pressure prongs, then probe at an angle of 45 degrees every 2 to 6 inches on a 1-meter "left-to-right" front. When an object is touched, stop probing, remove the earth carefully, and determine what has been hit. The new row of probes is about 2 to 6 inches in a forward direction.

(3) Electrical Detection.--Electrical detection, using mine detectors, is a method used to locate most types of mines. The detector is effective only if operated by a trained and experienced operator.

i. Removal of Mines

(1) Hand Lifting.--Hand lifting is dangerous, but is used when secrecy must be maintained or the exploding mine would cause undesired damage. After uncovering the mine and neutralizing any devices on top of and around the sides of the mine, probe under the mine and feel to locate and neutralize any secondary fuzes. Carefully lift the mine from the hole and move it aside for disposal.

(2) Rope Removal.--Rope removal is accomplished by attaching a 50-meter rope or wire to the exposed mine and pulling the mine from the hole, utilizing a covered position. Wait at least 30 seconds before moving up to remove fuzes, pull wires, and activating devices.

(3) Removal by Explosives.--Removal by explosives is the safest way to destroy mines. A 1-pound block of explosive set on or beside the mine utilizing detonating cord to form a demolition chain is the most efficient method. The bangalore torpedo is suitable for breaching minefields to provide foot lanes.

9602. DEMOLITIONS

a. General.--Explosives are not dangerous if handled according to safety instructions. Frontline explosives are not sensitive to heat, shock, and friction as a result of normal usage and transportation. Blasting caps, electric and nonelectric, are extremely sensitive and dangerous and must be carried in the specially prepared cap box.

b. Training.--Training in explosives is simple and easily retained by the average Marine. This training includes the use of explosives to destroy bunkers, caves, bridges, and roadblocks; priming and firing of shaped charges, bangalore torpedoes, and claymore (M18) mines; and blasting entrances into buildings. Training gives the squad flexibility and ensures completion of missions with reduction in danger to using personnel.

c. Characteristics of Military Explosives

(1) Relative insensitivity to heat, shock, and friction. Not liable to detonation by small arms fire.

(2) High detonating velocity.

(3) High power per unit weight.

(4) Stable under all climatic conditions.

(5) Positive detonation by easily prepared primers.

(6) Suitability for underwater use.

(7) Size and shape convenient for usage.

d. Explosives

(1) TNT, because of its insensitivity, stability, and power, is universally accepted as the basis for rating other explosives. Its shattering effect is suitable for breaching concrete, steel, or timbers. It can be used for all combat demolition missions.

(2) C-4 (C-3), a plastic explosive developed for steel cutting, is stronger than TNT and is suitable for all frontline demolitions.

e. Prepared Charges

(1) Shaped charges are used to blast boreholes in concrete and steel and can penetrate bunkers and heavy tank armor.

(2) Bangalore torpedoes are used to clear paths through barbed wire systems. It can be used as an ambush weapon and to clear assault paths through antipersonnel minefields.

f. Demolition Accessories

(1) Detonating Cord (Primacord).--An explosive cord used to detonate a charge or a number of charges simultaneously. It is designed as a primer, and does not possess the power to be used as a working explosive such

as TNT or C-4.

(2) Blasting Caps

(a) Nonelectric.--A small metal tube enclosed at one end containing PETN. It is highly sensitive and must be carried in a cap box.

(b) Electric.--Same as above except for two leg wires for electrical connection. Its use requires a source of current such as a 10-cap blasting machine (Hell Box) or battery with a sufficient length of wire to stretch well clear of the charge. By preparing this system except for completing the circuit, explosions may be remotely controlled.

(3) Time Fuze (Safety Fuze).--A fuse used to detonate nonelectric blasting caps. Prior to usage, 6 inches must be cut off and discarded; then a 12-inch section cut and tested for burning rate, which should be between 30 and 45 seconds. This is the safety factor.

g. Primers.--Instructions for preparing primers are as follows:

(1) Nonelectric.--Insert time fuse into open end of blasting cap until the fuse is in contact with the cap explosive, then crimp together. Insert the cap into the explosive and secure by tape, adapter, or string; place the charge in the desired location and ignite the fuse with a mechanical fuse lighter or match. During wet weather, waterproof the connections.

(2) Electric.--Insert electric cap into the explosive and secure by wrapping tape or the leg wires around the explosive. An adapter is supplied for use in all prepared

charges having threaded cap wells. Connect the leg wires to a length of wire long enough to clear the danger area; hook these to a battery or blasting machine.

APPENDIX A

MILITARY SYMBOLS

1. General.--A military symbol is a sign used to identify and distinguish a particular military unit, activity, or installation. Listed herein are some of the military symbols commonly used by the squad leader.

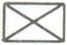
2. Colors.--Colors are used to assist anyone reading a map or overlay. Rules for their use are as follows:

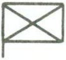
a. Blue or black is used for friendly forces.

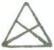
b. Red is used for enemy. If red is not available, blue or black in double lines can be used. (See par. 10.)

c. Green is used to show minefields, demolitions, roadblocks, and other engineer obstacle activities of both friendly and enemy forces. It will not be used for any other military activity. If not available, black is substituted.

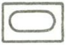
3. Type Unit Symbols


Infantry Unit.

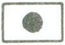

Infantry Headquarters.



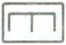
Infantry Observation Post.



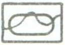
Armor.



Artillery.



Engineer.



Amphibian Tractor.

4. Sizes.--Sizes of units are indicated by the following symbols:

Ø Fire Team.

● Squad.

●● Section.

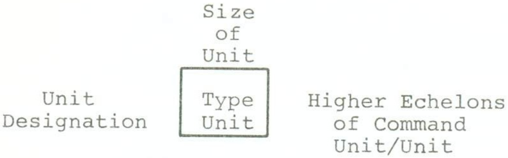
●●● Platoon.

| Company or Battery.

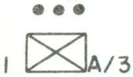
| | Battalion or Squadron.

5. Combining Basic Symbols

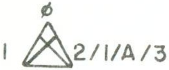
a. The arrangements of type unit symbols, size symbols, letters, and numbers to show specific troop units and observation posts are shown by the following diagram:



b. Examples:

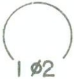


1st Plat, Co A, 3d Marines

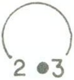


Observation Post, 1st Fire Team, 2d Sqd, 1st Plat, Co A, 3d Marines.

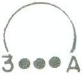
6. Positions.--Positions of small infantry units are shown in this manner:



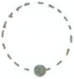
Fire Team (1st Fire Team, 2d Squad).



Squad (2d Squad, 3d Platoon).



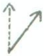
Platoon (3d Platoon, Company A).



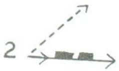
Squad Size Position Proposed for Occupation.

7. Weapons Symbols.--Following are some examples of weapons symbols:

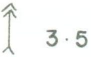
Automatic Rifle, Light Machinegun.



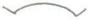
Automatic Rifle, Showing Sector of Fire and Principal Direction of Fire.



Two Machineguns on the FEBA, Heavy Line Shows Limit of Grazing Fire on Final Protective Line.



Rocket Launcher.



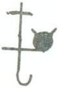
Claymore Controlled Mine.

Multipurpose Flame Weapon.

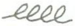
8. Obstacle Symbols.--Following are some examples of obstacle symbols:

Antitank Mine.

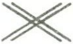
Antipersonnel Mine.



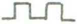
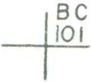
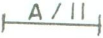
Antipersonnel Mine, with Tripwire.



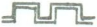
Concertina, Single.

	Roadblock (completed).

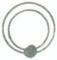
9. Miscellaneous Symbols.--Following are some miscellaneous symbols:

	Grenadier/Rifleman.
	Listening Post.
	Sentinel Post.
	Trenches.
	Artillery or Mortar Target.
	Artillery or Mortar Final Protective Fire. (Identified by unit designated to fire.)
	Radar Site.

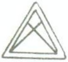
10. Enemy Positions.--Enemy positions are shown by blue or black double lines if red is not available. Examples are as follows:



Enemy Trenches.

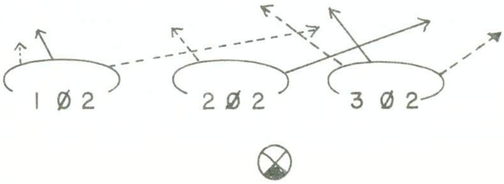


Enemy Squad-Sized Position.



Enemy Infantry Observation Post.

11. Rifle Squad's Defensive Fire Plan.--An example of a rifle squad's defensive fire plan sketch appears below. The squad shown is located on the FEBA. The sketch shows fire team positions and sectors of fire, positions and principal directions of fire of the automatic rifles, and the position of the squad leader. Each fire team sector of fire is covered by its grenadier/rifleman.



NOTE:

If the rifle squad is providing protection for a crew-served weapon, the position and primary fire mission (FPL for a machinegun on FEBA and principal direction of fire for other crew-served weapons) should be included. Sufficient terrain features and the estimated ranges to them should be indicated so that the sketch can be oriented on the ground.

APPENDIX B

METHOD OF CHALLENGING BY GUARDS AND SENTRIES

1. Do not allow unidentified personnel to closely approach your position. Halt and identify them before they are close enough to be a danger to you. This precaution is important at night and during other periods of poor visibility.

2. The following definitions have been approved for Marine Corps use (see CENTO STANAG 2042):

a. Challenge.--Any process carried out by one unit or person with the object of ascertaining the friendly or hostile character or identity of another.

b. Reply.--An answer to a challenge.

c. Password.--A secret word or distinctive sound used to reply to a challenge.

d. Countersign.--A secret challenge and its reply; e.g., NUTS = challenge, WINE = password or reply.

3. The correct procedure for challenging and replying is shown in figure 43.

ACTION BY SENTRY	ACTION BY PERSON OR GROUP CHALLENGED
1. "HALT! WHO IS (or GOES) THERE?"	1. Halts and gives any reply which indicates the person or group is authorized to pass; e.g., "FRIEND," "ALLY," "CORPORAL OF THE GUARD," etc.
2. "ADVANCE (ONE) AND BE RECOGNIZED."	2. Person (or group leader) advances without replying.
3. "HALT!" (When unknown has approached sufficiently for sentry to recognize him or to give challenge.)	3. Person halts until recognized by sentry.
4. Challenge (if any) is given in a low tone.	4. Reply or password is given in a low tone.
5. "ADVANCE ANOTHER ONE (or REMAINDER) AND BE RECOGNIZED." (Sentry calls forward remainder one by one or as a group, as the situation or his orders demand.)	5. Second unknown (or remainder of group) advances at order of sentry to be recognized. Group leader, or person designated by leader must remain with sentry to assist in identifying remainder of group.

Figure 43.--Procedure for Challenging and Replying.

LIST OF REFERENCES

1. JOINT PUBLICATIONS

JCS Pub 1, Department of Defense Dictionary of Military and Associated Terms

2. FLEET MARINE FORCE MANUALS

FMFM 1-1, Marine Bayonet Training
FMFM 1-2, Marine Troop Leaders Guide
FMFM 1-3, Basic Rifle Marksmanship
FMFM 2-1, Intelligence
FMFM 3-1, Command and Staff Action
FMFM 3-2, Amphibious Training
FMFM 3-3, Helicopterborne Operations
FMFM 4-2, Amphibious Embarkation
FMFM 4-5, Medical and Dental Support
FMFM 4-6, Air Movement of FMF Units
FMFM 6-4, Marine Rifle Company/Platoon
FMFM 8-1, Special Operations
FMFM 8-2, Counterinsurgency Operations
FMFM 9-1, Tank Employment/Antimechanized Operations
FMFM 9-2, Amphibious Vehicles

3. U.S. NAVY PUBLICATIONS

NWIP 22-3(_), Ship-to-Shore Movement

4. U.S. ARMY FIELD MANUALS

FM 7-10, The Rifle Company, Platoons, and Squads
FM 7-20, Infantry, Airborne Infantry, and Mechanized Infantry Battalions

4. U.S. ARMY FIELD MANUALS (continued)

FM 17-1, Armor Operations
FM 21-18, Foot Marches
FM 21-30, Military Symbols
FM 21-40, Chemical, Biological, Radiological and Nuclear Defense
FM 21-60, Visual Signals
FM 21-75, Combat Training of the Individual Soldier and Patrolling
FM 31-21, Special Forces Operations
FM 31-50, Combat in Fortified and Built-Up Areas
FM 31-60, River-Crossing Operations

5. STANDARDIZATION AGREEMENTS

CENTO STANAG 2042

INDEX

	Paragraph	Page
A		
Advance by fire and maneuver	6303b	129
Advance by fire and movement	6303c	129
Advance guard, point	6202b(3)	114
Alternate position	7102c	153
Ambush	8606	229
Patrols	8607	233
Amphibious operations	4101	85
Arm-and-hand signals	3204, 5301	71, 105
Assault landing by helicopter		
Attack plan	5401	109
Steps of ground action	5402	110
Assault through the objective	6304c	134
Attack		
Final coordination line	6304b	133
Pursuit by fire	6501a	138
Technique	9202	254
Attack position	6203c	123
Automatic rifleman, duties	1204d	5
B		
Base squad	6202c(2)	121
Battle area, forward edge	7102e	155
Beaten zone	2304	33
Boat team		
Commander, duties	4104c(1)	88
LVT	4104h	93
Organization	4104b	87
Buildings, attack	9302	259
Built-up areas, combat in	9301	258

	Paragraph	Page
C		
Challenge and password	App B	305
Chemical agents	9502b	281
Chemical defense	9502	280
Clock method	9405a	270
Combat outpost	7210	176
Combat patrol	8202c, 8601	187 222
Cone of fire	2303	33
Connecting elements	6202b(2)	113
Consolidation	6402	136
Contact patrols	8604	227
Control by patrol leader	8407	212
Crater analysis	1403d	19
D		
Danger areas	8405	211
Debarkation	4104	87
Decontamination	9501e	279
Defense		
Against mechanized attack	7207	174
Object of	7101	153
Preparation	7104	156
Defense area	7102d	154
Defense order, squad	7205	169
Defensive procedures		
Communication with platoon commander	7209b(1)	176
Enemy bombardment	7206a	172
Enemy penetration	7208	174
Final protective fires	7206c	173
Opening fire and fire control	7206b	173
Organization of the ground	7204	161

	Paragraph	Page
Defensive procedures (con.)		
Squad plan of defense	7202	158
Squad security	7203	160
Troop leading	7201	157
Demolitions	9602	293
Departure and reentry of friendly areas	8402	206
Deplanement	5201g	103

E

	Paragraph	Page
Economy of force patrols	8605	228
Emergency abandonment from landing craft and LVT	4105e	94
Encirclement	9107c(1)	249
Enemy penetration	7208	174
Enfilade fire	2305a(3)	35
Enplaning	5201e	102
Estimate of the situation	1304	10
Estimation by eye	2202	27
Exploitation	6501	138

F

	Paragraph	Page
FEBA	7102e	155
Fields of fire	7204d	162
Final coordination line	6304b	133
Final protective fires	7206c	173
Finger measurement	2604c	49
Fire and maneuver, advance by	6303b	129
Fire, application of	2701	53
Assault fire	2703b(2)	56
Attack fire	2703b	55
Control	2707	60
Defense fire	2703c	57
Delivery	2703	55

	Paragraph	Page
Fire, application of (con.)		
Discipline	2706	60
Final protective fire	72021(2)	159
Position requirements	2703a	55
Rates	2705	60
Fire, classes	2305	34
Fire commands	2601	45
Delivery	2610	52
Fire control	2608, 2707, 7206b	51 60 173
Fire discipline	2706	60
Fire, rate	2705	60
Fire, rifle and automatic rifle	2301	31
Fire support	1501, 6303e	22, 116
Fire team formations	3102a, 3103a	63, 65
Fire team leader, duties	1204c	5
Fire, technique	2101	25
Firing, low visibility	2704	58
Flank guard, point	6202b(5)	118
Flank patrol	6202b(6)	118
Flanking fires	2305a(2)	35
Flares, action under	8102b	180
Flash-bang method	1403c	19
Formations, combat	3101	63
Fortified areas, attack of	9201	252
Foxholes	7204e	163
Frontal fire	2305a(1)	35

G

General outpost	7211	177

	Paragraph	Page
Grazing fire	2305b(1)	35
Grenade launcher, fire and effect		
M79	2501	43
M203	2401	38
Grenadier/rifleman, duties	1204e	5
Guerrillas		
Operations against	9101	241
Patrolling against	9106	248
Patrol base	9104	242

H

	Paragraph	Page
Helicopter wave	5103b	98
Helicopterborne assault		
Initial ground action	5402	110
Plan of attack	5401	109
Helicopterborne training	5201	100
Helicopterborne operations	5101	97
Assault	5401	109
Concept of employment	5102	97
Definitions	5103	97
Signals	5301	105
Training	5201	100
Heliteam	5103a	97
House-to-house fighting, techniques	9302e	262

I

	Paragraph	Page
Illumination, night attack	6605a(4)	144
Immediate action drills	8404c	211
Individual movement	8102a	129
Infiltration		
Conduct of the attack	6703	150

	Paragraph	Page
Infiltration (con.)		
Patrol	8411	214
Planning and preparation	6702	147
Information and reports	8412	214
Captured documents	8412c	216
Critique	8412e	217
Patrol report	8412d	216
Sending information	8412b	215
Intelligence and counterintelligence	1401	16
Prisoners of war	1404	19
Reporting information	1403	18

L

	Paragraph	Page
Land combat		
Phases	6102	111
Purpose	6101	111
Landing point	5103e	99
Landing site	5103d	99
Landing zone	5103c	98
Landmines	9601e	290
Leadership and command	1301	7
Estimate of the situation	1304	10
Operation orders	1305	13
Principles	1302	7
Troop leading steps	1303	8
Line of departure, movement to	6302	128
Local security	7209	175

M

	Paragraph	Page
Map and land navigation	8102d	184
Map study	8305	193

Paragraph Page

METT ---------------------------- 1304b 10
Military symbols --------------- App A 297
Minefields, purpose ------------ 9601c 288
Mine warfare ------------------- 9601b 288
    Detection of mines --------- 9601h 291
    Removal of mines ----------- 9601i 292
Mission, rifle squad ----------- 1101 1
Movement to contact phase
    Approach march ------------- 6202c 120
    Assembly area -------------- 6203b 122
    Attack position ------------ 6203c 123

N

Navigation patrol -------------- 8408 212
Night attack
    Control measures ----------- 6602 140
    Illumination and supporting
     fires --------------------- 6605a(4) 144
    Security patrols ----------- 6603 142
Nuclear and chemical defense
    Conventional and nuclear
     explosions ---------------- 9501a 274
    Decontamination ------------ 9501e 279
    Effects on individuals ---- 9501b 275
    Protection, individual ---- 9501d 277
    Types of bursts ------------ 9501c 276
Nuclear blast ------------------ 9501b(1) 275
Nuclear radiation -------------- 9501b(3) 275

O

Observation of fire ------------ 2203 29
Observing techniques ----------- 8102c 181
Offensive combat --------------- 6101 111

	Paragraph	Page
Operation orders	1305	13
Order, warning	8308	195
Outposts		
Combat	7210	176
General	7211	177
Overhead fire	2305b(3)	37

P

Password and challenge	App B	305
Patrol base, establishing	9104	242
Patrol coordination	8309	198
Patrol leader's order	8312	202
Patrol organization	8201	187
Patrol planning	8311	199
Patrol preparation	8301	190
Patrolling		
Steps	8302	191
Types	8101b	179
Patrols		
Ambush	8606	229
Combat	8601	222
Contact	8604	227
Economy of force	8605	228
Raid	8602	223
Reconnaissance	8501	219
Security	8603	226
Patrols, conduct of		
Control	8407	212
Departure and reentry	8402	206
Information and reports	8412	214
Navigation	8408	212
Rallying points	8403	208
Security	8409	212
Plunging fire	2305b(2)	36

	Paragraph	Page
Prisoners of war	1404	19
Probable line of deployment	6602a(5)	142
Pursuit		
By fire	6501a	138
Physical	6502	138
R		
Radio, use	8410	214
Raid patrols	8602	223
Rally points	8403	208
Range, command	2606	50
Range determination		
Estimation by eye	2202	27
Observation of fire	2203	29
Rear point	6202b(4)	118
Reconnaissance patrol	8202b	187
Missions	8501	219
Reference points	2604b	48
Rifle fire		
Beaten zone	2304	33
Classes	2305	34
Cone of fire	2303	33
Effect	2306	37
Trajectory	2302	31
Rifleman, duties	1204f	5
Rifle squad		
Composition	1202	2
Duties	1204	4
Fire support	1501	22
Mission	1101	1
S		
SALUTE	1403a	18

	Paragraph	Page
Scouting, fire teams	6202c(4)	121
Security		
Halts	8409d	214
Local	7209	175
Measures	6402b	136
Patrols	8603	226
Posting	7204b	161
Squad, defensive	7203	160
Use of radio	8410	214
SHELREP	1403b	18
Signals		
Arm-and-hand	3204, 5301	71, 105
Special	3203	70
Whistle	3202	70
Signals, fire control	2609	51
Squad, base	6202c(2)	121
Squad formations	3102b, 3103b	63, 66
Squad indoctrination	9103	242
Squad leader, duties	1204b	4
Aboard ship	4103	86
Supplementary position	7102b	153
Symbols, military	App A	297

T

Tactical column		
Connecting elements	6202b(2)	113
Security for halted column	6202b(7)	120
Tank capabilities	9402a	265
Tank-infantry communications		
Telephone	9403b	267
Visual	9403c	267
Tank-infantry coordination	9401	265

Paragraph Page

Tank-infantry tactics --------- 9406 271
Tank limitations -------------- 9402b 266
Tanks, infantry protection ---- 9404 268
Target assignment ------------- 2607 51
Target description ------------ 2605 50
Target designation ------------ 9405 270
Thermal radiation, protection-- 9501d(3) 278
Troop leading steps ----------- 1303 8

U

Unit fire, types -------------- 2702 53

W

Warning order ----------------- 8308 195
Weapons, supplementary -------- 1203b 4
Whistle ----------------------- 3202 70

☆ U.S. GOVERNMENT PRINTING OFFICE : 1977 O—236-019